

NE.C.C.



3 0385 00101 4546



1985 - 1986

Northern Essex Community College

Haverhill, Massachusetts

Board of Regents of Higher Education

Commonwealth of Massachusetts

David J. Beaubien of Wellesley, Chairman

Mary Lou Anderson of Worcester

Nicholas Boraski of Pittsfield

Gerard F. Doherty, Esquire of Boston

Sister Janet Eisner, S.N.D. of Boston

Honorable J. John Fox of Boston

Kathleen Harrington of Fall River

James M. Howell of Boston

Paul Marks of Framingham

Hassan Minor of Boston

David S. Paresky of Cambridge

Elizabeth B. Rawlins of Boston

Edward T. Sullivan of Boston

Paul N. Ylvisaker of Cambridge



Northern Essex Community College

Board of Trustees

Marjorie E. Goudreault of Haverhill,
Chairman

Daniel A. Beauregard of Haverhill

Ourania Behrakis of Lowell

Louis T. Fossarelli of Haverhill

Warren L. George of Salisbury

James B. Kelley of North Andover

John F. Lyons of Nashua

Carolyn M. Morton of Bradford

Lois K. Richardson of Haverhill

Marie I. Sirois of Methuen

Henry A. Walker of Newbury



**Catalog
1985 - 1986**

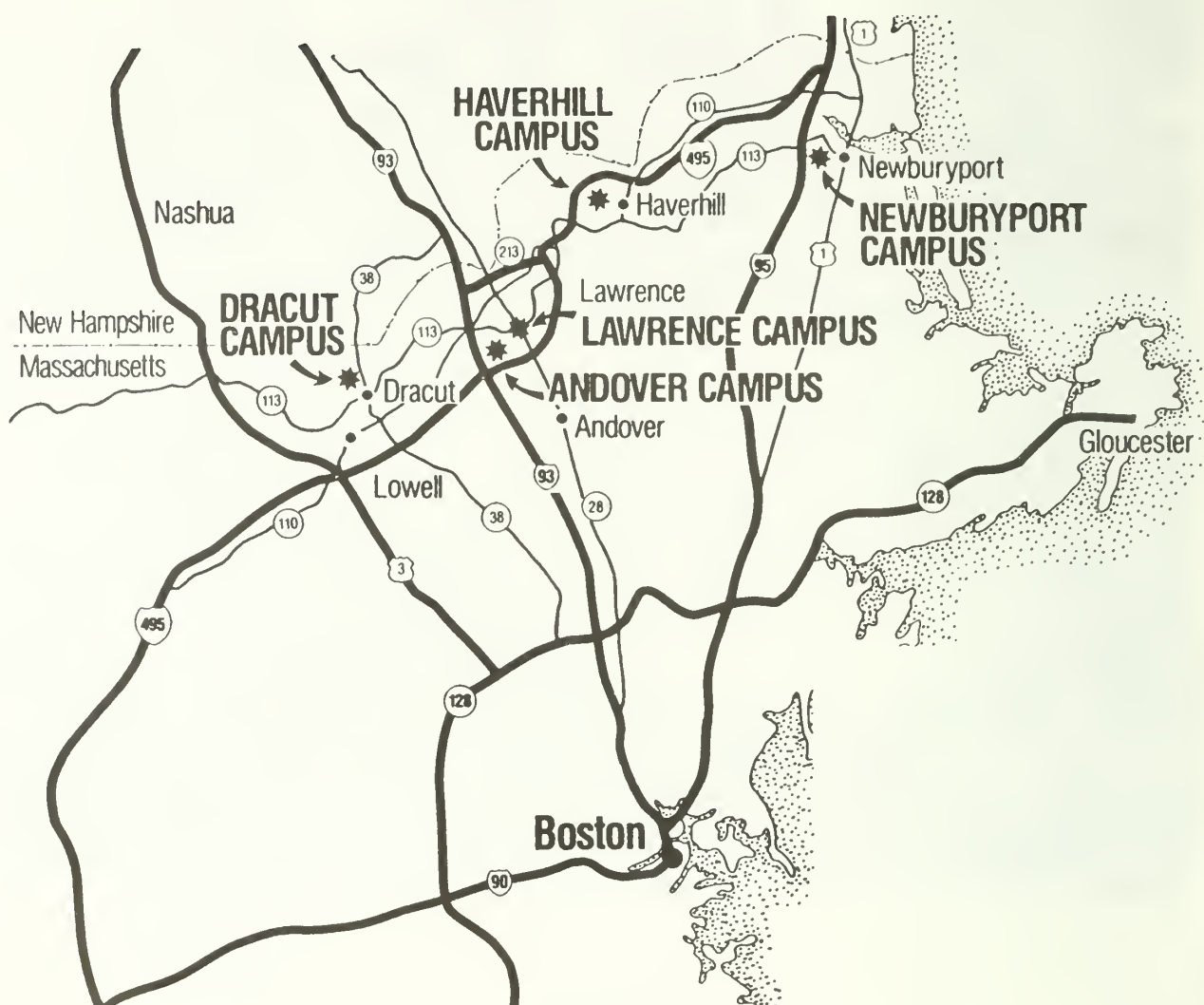
Northern Essex Community College

**Elliott Street
Haverhill, Massachusetts 01830
Telephone (617) 374-0721**

**Robert E. McDonald
Dean of Academic Affairs**

**John R. Dimitry
President of the College**

**LOCATED JUST OFF ROUTE 495
AT EXIT 52 IN HAVERHILL
WITH EXTENSION CAMPUSES IN
ANDOVER, DRACUT, LAWRENCE AND NEWBURYPORT**



Directions

Main Campus in Haverhill: located at Exit 52 off Route 495. Major roadways connecting with Route 495 are Route 93 from the south and Route 95 from the north.

Andover Campus: located at Exit 19 off Route 93 in Andover at the Greater Lawrence Technical School, 47 River Road.

Dracut Campus: located two miles from the Route 110 Exit off Route 93 and two miles from the Route 38 Exit off Route 495 at Dracut High School, 1540 Lakeview Avenue.

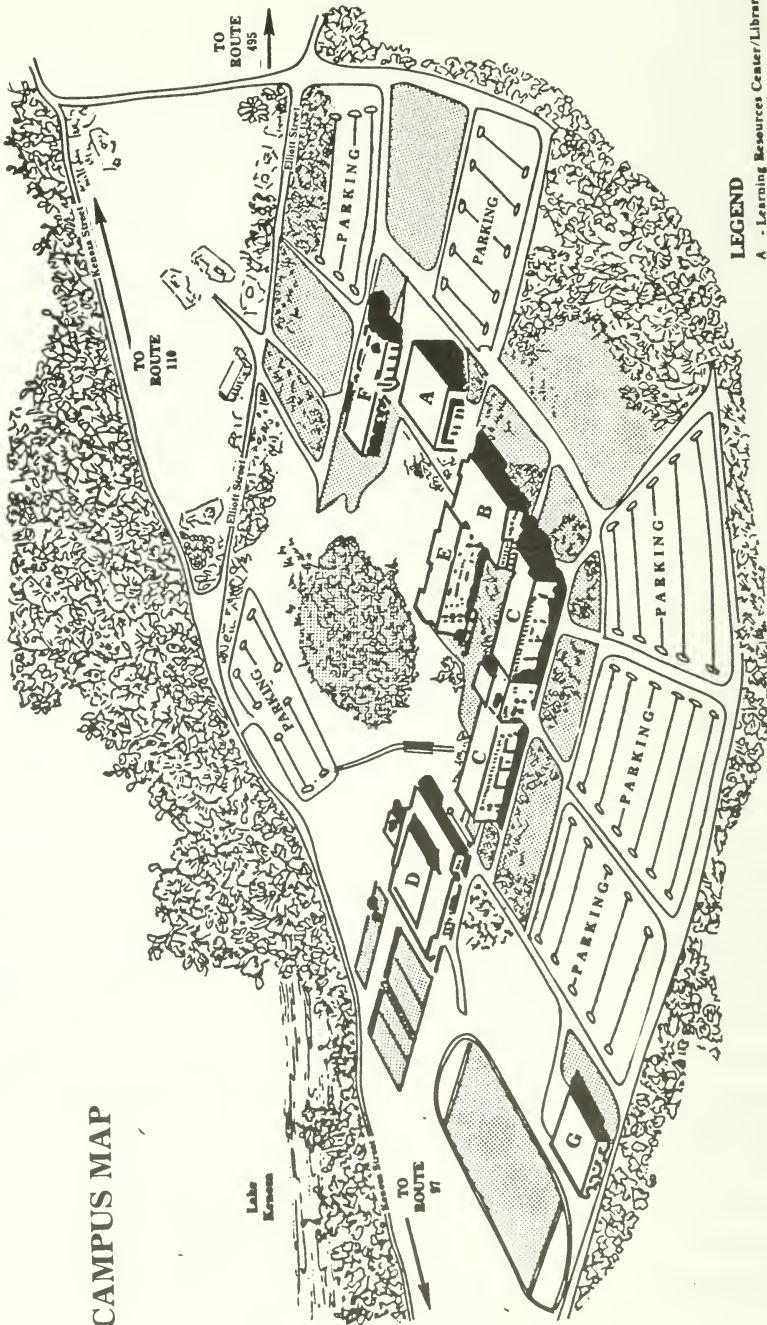
Lawrence Campus: the Lawrence Education-Employment Project (LEEP) is located at Exit 42 off Route 495 in the Lawrence Public Library, corner of Lawrence and Haverhill streets.

Newburyport Campus: located one mile from the Route 110 Exit off Route 95 South at the Newburyport High School, 241 High Street.

TABLE OF CONTENTS

	Page
Directions	3
Message from the President.....	5
Campus Map.....	6
Introduction	7
General College Policies	11
Admission	13
Tuition and Fees	17
Financial Aid	19
Student Life	24
Getting Advice at N.E.C.C.	27
Academic Support	31
Transfer After N.E.C.C.	33
Continuing Education	35
Specialized Study Opportunities.....	40
Academic Standards	42
Academic Structure.....	55
Associate Degree and Certificate Programs	55
Course Descriptions.....	111
Occupational Advisory Council.....	169
Program Advisory Committees.....	169
Visiting Professors	174
Adjunct Faculty	174
Professional Staff	175
Classified Staff.....	188
College Directory	191
Index	192

CAMPUS MAP



LEGEND

- A - Learning Resources Center/Library
- B - Applied Science Building
- C - Classroom Building
- D - Gymnasium
- E - Science Building
- F - College Center
- G - Maintenance



John R. Dimitry

From the President

Welcome to Northern Essex Community College. Whether you are a returning student or attending our institution for the first time, all of us here at the college are eager to help you meet the goals you have set for yourself. We are convinced that you have chosen to enter an academic, cultural and recreational atmosphere that will enrich and stimulate you.

The various educational opportunities and student services available to you at Northern Essex are described in this catalog. Explore them and use them well to build upon your various goals, backgrounds and personal characteristics.

In the nineteenth century, Thomas Carlyle wrote:

Let each become all that he was created capable of being; expand, if possible, to his full growth; and show himself at length in his own shape and stature, be these what they may.

This quotation reflects our wish for you during your time with us. We hope the college will serve as a catalyst in this process and wish you every success in your Northern Essex experience.

John R. Dimitry





INTRODUCTION

The first thing you should know about Northern Essex Community College is that the quality of education here is high. You will be part of a relatively small student body: approximately 8,500 including full-time and part-time students in the Day Division and the Division of Continuing Education & Community Services.

The second thing you should know about Northern Essex is that costs are extremely low for both Day Division and Division of Continuing Education & Community Services students. The average full-time student spends about \$450 a semester here for tuition and fees. Part-time study is comparably inexpensive. A wide variety of financial aid sources is available. Our thinking is that anyone really interested in college can find a way to afford Northern Essex.

Northern Essex is a public, two-year college which offers comprehensive programs of study leading to the Associate in Arts degree, the Associate in Science degree and Certificates of program completion. The Division of Continuing Education & Community Services provides additional part-time study and short term programming designed to meet the specific educational needs of adults. Excellent facilities, solid academic support services and an active student activity program are part of the educational opportunities at Northern Essex.

Transfer programs are offered in the Liberal Arts, Business, Engineering Science and Business Education for those students planning to work toward a Bachelor of Arts degree or a Bachelor of Science degree at a four-year institution after graduation from Northern Essex.

Career programs are offered in the arts, business, human services, health professions, the technologies and office and business education for those students who intend to seek employment upon completion of the associate degree. Career programs, although not designed specifically for transfer, have significant proven transfer potential.

Classes are small and the student/teacher ratio is low. We have a teaching faculty who concentrate their education, experience and effort in the classroom.

Northern Essex is local. The rural main campus borders Kenoza Lake in Haverhill, Massachusetts and is just one minute from Exit 52 on Interstate Route 495. Northern Essex is minutes away from the Greater Lawrence and Greater Newburyport areas, and less than thirty minutes from the City of Lowell. Extension campuses are located in Andover, Dracut, Lawrence and Newburyport.

To Northern Essex students, our location means easy commuting, minimum disturbance of home and job schedules, and avoidance of expensive dormitory and food plan costs. To the college, our location means that we are in close touch with what is going on in the Merrimack Valley, what programs people want to study, what kinds of training are needed and where the jobs are now.

Philosophy of the College

Northern Essex Community College is committed to the belief that high quality, low cost education should and can be available to everyone in the community. People of all ages and backgrounds are welcome to utilize the educational opportunities offered.

Northern Essex seeks out potential students who may not be aware of the educational possibilities around them. Age, ethnic or religious background, or past academic records are not prohibitive factors to admission. The college encourages people to consider education throughout their lives.

To implement these ideals, the college has developed (and is continuing to expand) a wide variety of flexible programs to meet diverse community needs. The college attempts in its programming to directly reflect the interests of business, culture, health and industry in the Merrimack Valley area.

Goals of the College

Northern Essex is a community college designed to meet community needs. The college's community includes more than forty-five cities and towns in the Merrimack Valley, as well as localities in nearby southern New Hampshire. The essential mission of Northern Essex Community College is represented in the following goals which the college strives to realize:

- To provide a climate in which students can develop their potential and their intellectual, physical and social values and skills
- To provide responsive, high quality education for the citizens of the area
- To provide career programming for students which prepares them for employment
- To provide quality lower division programming for those students who are interested in transferring to upper division institutions
- To provide curriculum flexibility for those students who are unsure of their ultimate career objectives
- To foster a variety of teaching methods and subjects in order to provide the individual student with sufficient flexibility to adapt rapidly to a broad range of societal changes

- To provide a full range of appropriate and supportive student services
- To identify and serve specific segments of the population in our service area that may require specific programming approaches appropriate to community colleges, especially those who have been traditionally under-represented in post-secondary education
- To share actively in the cultural life of the community and to exercise leadership in a wide variety of cultural activities
- To promote excellent teaching by the faculty; to encourage the scholarly and professional growth of the faculty and staff
- To maintain an effective participatory governance system for the college
- To continue the development of interaction with area businesses, industries, institutions and service agencies in order to maintain and develop relevant curricula and services
- To foster successful career choices and job performance by promoting cooperative education experiences for all interested students in a wide variety of employment settings.
- To facilitate life-long learning and other community activities by functioning as an accessible and responsive resource center for the region
- To foster a sense of institutional identity and solidarity and to promote an educational dialogue among students, faculty, administration and governing and advisory boards
- To encourage experimentation and innovation in educational practices and policies.

Governance of the College

In conformance with Chapter 15-A of the Laws of the Commonwealth, jurisdiction over Northern Essex Community College is shared by a local Board of Trustees and a central Board of Regents which governs all segments of public higher education in Massachusetts. The Boards, in turn, delegate responsibility for administration of the college to the President. The President solicits advice in the decision making process from a number of sources including a college-wide Academic Council as well as numerous programmatic advisory councils and commissions comprised of representatives from area businesses, industries, unions, social agencies, educational, public and private institutions in the Merrimack Valley.

Center for Business and Industry

Directed by a former Raytheon Corporate Vice President, the college's Center for Business and Industry is a prototype for the promotion and development of cooperative ventures between community colleges and industry. New courses are created, existing courses tailored and total programs are packaged in response to specific employer needs. Initial models developed by the Center have focused on the skill-training required by high technology industries in the Merrimack Valley. Through the Center, the college is able to contribute effectively and directly to the economic vitality of the community.

The N.E.C.C. Foundation

The Northern Essex Community College Foundation is a non-profit organization established by members of the community to provide support for the goals of the college and to expand opportunities available at the college. Incorporated in 1972, the Foundation provides scholarships, cultural events, and education and community services not ordinarily

available to the college community. It is the aim of the Northern Essex Community College Foundation to grow and develop into a truly significant contributor to the educational and cultural life of the college.

N.E.C.C. Alumni Association

The Northern Essex Community College Alumni Association was founded in 1971 to promote the interests of Northern Essex and its alumni in the community, and to foster an on-going relationship between the college and its graduates. Northern Essex Community College alumni now number nearly 10,000. The Alumni Association elects one of its members to sit on the college's Board of Trustees, and another graduate is appointed by the Governor.

Gallaudet College Center for New England

Northern Essex is the home of the Gallaudet College Center for New England. The Center implements a program of services to meet the academic, social, cultural and economic needs of hearing-impaired persons in New England. The Center also disseminates information on deafness and on grants relating to deafness to appropriate agencies and individuals, and serves as a resource for persons or agencies involved in services for deaf persons.

Student Body

Approximately 8,500 students are currently enrolled at Northern Essex. About 3,500 students are enrolled each semester in the college's Day Division. Over 5,000 additional students register each semester for part-time study in the college's Division of Continuing Education & Community Services.

Our student body is a complex group. Many come here directly after high school, often from the top 15% of their classes. Others bring a variety of living and job experiences to their studies. The average age of our students ranges from 22 in the Day Division to approximately 34 in the Division of Continuing Education & Community Services.

Some are taking traditional college programs, planning to transfer to a four-year institution after graduation. Some are enrolled in associate degree or certificate programs leading to immediate employment in specialized career fields. Some are taking remedial and developmental courses to upgrade their academic backgrounds while pursuing a degree program. Others are taking individual courses, exploring alternatives before making more formal academic decision.

Some students take special interest courses only. In addition, a large number of students are enrolled in non-traditional programs of study such as developmental courses, manpower programs in special skill areas, and programs in the high technology area designed to fit the unique training needs of individual groups of students or particular employers.

Accreditation

Northern Essex Community College is accredited by the New England Association of Schools and Colleges, Inc., which accredits schools and colleges in the six New England states. Accreditation by the Association indicates that the institution has been carefully evaluated and found to meet standards agreed upon by qualified educators.

Northern Essex supports the efforts of secondary school officials and governing bodies to have their schools achieve regional accredited status to provide reliable assurance of the quality of the educational preparation of its applicants for admission.

GENERAL COLLEGE POLICIES

Affirmative Action/Accessibility

Northern Essex Community College complies with the requirements of Title IX of the Higher Education Act of 1972 and with the Viet Nam Era Readjustment Assistance Act of 1974. Recruitment, admission, programs, activities and facilities are available to all on a non-discriminatory basis, without regard to race, color, national or ethnic origin, religion, sex, marital or parental status or handicap. The college is an equal opportunity/affirmative action employer. Northern Essex is physically accessible to all people, including those who use wheelchairs. All programs and activities are accessible to all otherwise-qualified students with disabilities. The college complies with the requirements and spirit of Section 504 of the Rehabilitation Act.

Inquiries regarding affirmative action and accessibility policies should be addressed to the Affirmative Action/Equal Opportunity Officer and/or the Section 504 Compliance Officer, Northern Essex Community College, Haverhill, MA 01830.

Disclosure of Academic Records

The Family Educational Rights and Privacy Act of 1974, as amended, prescribes the conditions under which information about students can be released. The provisions of the Act applicable to transcripts of academic records are basic to the following guidelines:

- Students have the right to inspect their academic records and challenge the contents which they believe to be inaccurate or misleading.
- Students have the right to transcripts of their own academic records, but the institution is not obligated to provide copies of original source documents available elsewhere. The institution may require students to submit signed requests for transcripts of their academic records.
- The institution may refuse to provide transcripts for reasons such as nonpayment of financial obligation, but students cannot be denied the right to inspect and review their records.
- The institution may disclose academic records without written consent to designated school officials within the institution.
- The institution may disclose directory information to authorized individuals and institutions as defined within the statute of the law.

Additional information about this law, the specific policies of this institution, and your rights to limit or deny disclosure of your academic record is available from the Registrar's Office.

Financial Obligations

Fulfilling the terms of their financial contract with the college will guarantee students the right to receive documents confirming their attendance at the college and permit them to register for subsequent classes.

Change of Address

If at any time students change their legal or mailing address they should notify the college immediately so that their records can be brought up to date.

Northern Essex Community College reserves the right to withdraw or revise any provision or requirement described in the college catalog. Supplements to this document may be issued from time to time to present new or additional information.



ADMISSION

Traditionally, people think of a college, especially a college's Day Division, as an educational resource for recent high school graduates.

This is true. However, the Day Division at Northern Essex Community College is much, much more.

You may take a traditional transfer program and continue studying at a four-year college after earning your associate degree.

You may enroll in an associate degree program leading to a job and career after graduation.

You may choose one of the job-oriented certificate programs to develop or upgrade a skill as quickly as possible.

You may study on a full-time basis; or part-time study may be better suited to your needs.

You may take a single course to explore a field of study or enrich your leisure time.

Whatever approach to study at Northern Essex you select, you will find that our educational quality is high and that our graduates consistently perform well as transfer students, in professional registration examinations, and on the job.

Getting to Know Northern Essex

To familiarize our community with Northern Essex, Admissions Office staff visit many of the high schools in the Merrimack Valley each fall. We send representatives to college fair programs in the area to give potential students an opportunity to meet people from Northern Essex and discuss their educational plans.

College publications are used to reach our community. Northern Essex publishes a colorful Viewbook, which provides a general look at the college; an official catalog which describes courses, programs, services and academic standards; and a brochure, mailed to homes in the Merrimack Valley five times a year, detailing continuing education classes, workshops and special programs.

Campus visits are encouraged. Northern Essex is readily accessible to everyone in the Merrimack Valley and we invite you to take a first-hand look at us. Campus tours are available and the Admissions Office is ready to answer your questions and refer you to a staff member who will assist you to make your initial educational decisions.

We also encourage you to talk to our students and our graduates. Most of them are pleased with their choice of college. Such satisfied students are our best recommendation - our ambassadors.

Applying For Admission

Northern Essex Community College accepts without discrimination all applicants to the college who meet admission requirements. In addition, note that some programs require a specific academic background for admission, others have enrollment limits.

Admission Requirements

Usually, applicants for an associate degree program are high school graduates or equivalent (this requirement may be waived for older students who show other evidence of their ability to succeed in college level work). Scholastic Aptitude Test (S.A.T.) scores are not required.

Application Procedures

Northern Essex has a rolling admissions plan. Students may start degree programs in the fall, spring or summer session. Obtain an admissions application form in the college's Admissions Office or a high school guidance office. Return the completed application form to the Admissions Office with the application fee, a check or money order payable to

Northern Essex Community College. (The application fee may be waived in cases of financial hardship.) Request the high school and any college attended to forward to the Admissions Office an official transcript of grades. Acceptance letters are normally mailed within four weeks.

For Further Information

All inquiries, request for applications or other materials, or questions pertaining to admission to the college may be directed in writing to Office of Admissions, Northern Essex Community College, Elliott Street, Haverhill, MA 01830; or you may call the Admissions Office at (617) 374-0721, extension 240. For information on registering for classes in the Division of Continuing Education & Community Services see the section on the Division in this catalog or call (617) 374-0721, extension 245.

Part-Time Day Studies

For the convenience of those who may wish to take courses on a part-time basis and minimize commuting time, the college offers a variety of courses each semester which meet once each week during the day. Part-time students may also register for other courses on a seat-available basis. Please contact the Admissions Office for further information.

Applicants with Disabilities

No pre-admissions disclosure is required for applicants with disabilities. Students with disabilities should notify us of any condition which would require additional assistance in completing their academic program.

Residency

To be eligible for the in-state tuition rate in the Day Division, students must be residents of Massachusetts. In general, one is considered a Massachusetts resident if one has been in continuous residence in Massachusetts for six months immediately prior to the date beginning the academic period for which one wishes to enroll and has established a domicile in Massachusetts. There is no residency requirement in the Division of Continuing Education & Community Services.

The New England Regional Student Program

Students who are legal residents of any New England state may be eligible for consideration under the New England Regional Student Program (NERSP). Such students may take advantage of a reduced tuition charge. A student accepted under this program pays the Massachusetts in-state rate PLUS a 25% tuition surcharge fee. Potential students may be eligible for consideration if a study program is not offered at an in-state institution or if Northern Essex Community College is closer to the student's legal residence than an in-state institution.

Northern Essex Community College participates in the NERSP in many academic programs. Registered Nursing: Day Option is not open under NERSP. Additional programs may be limited to Massachusetts residents in the future.

Admission for High School Students

Students who have not yet graduated from high school may take courses at Northern Essex for credit (on a full-time or part-time basis) as participants in the College Experience for High School Seniors Program or the Advantage Program. For more information, call the Admissions Office.

Foreign Students

Northern Essex Community College may accept a limited number of foreign students each

year. Foreign students whose native language is other than English will be required to take the Test of English as a Foreign Language (TOEFL) and obtain a score of 500 or better along with a minimum score of 50 on Section I (Listening Comprehension). The following are required at the time of application:

High School Transcript: all courses completed in high school should be listed. The transcript must be translated into English and certified as an accurate translation of the original document.

College Transcript: if applicable and translated into English and certified as an accurate translation of the original document.

TOEFUL Results: those applicants whose test results are unsatisfactory for a degree program will be required to complete non-credit remedial course work in Intensive English as a Second Language (ESL). Successful completion of ESL will allow students to continue in their degree program.

Sponsor: Foreign student applicants must have a sponsor in the local area who is a relative (and a U.S. citizen or registered immigrant).

Certification of Support: in the amount of approximately \$10,000 annually in a U.S. bank.

Application Fee: \$35.00 must accompany the application form. This fee is non-refundable.

All of the documents listed above must be received by the Admissions Office at least one month prior to the beginning of classes. In general, this date would be the first week of August for the fall semester, or the last week of December for the spring semester. Applications received later than these dates cannot be considered. Admission to some degree programs at the college is restricted to Massachusetts residents.

Transfer Credit

Transfer credit may be awarded for a course earned with a grade of C or better at another accredited institution when the course is applicable to the Northern Essex curriculum in which the student is enrolled. Credit earned at other than accredited institutions will be evaluated on an individual basis. The Director of Admissions will evaluate all credit from other institutions. A grade given for a course transferred from another college is not computed in the QPA at Northern Essex Community College. If credit is to be transferred from one Northern Essex Community College program of study to another, the transfer credit will be evaluated by the Registrar.

Advanced Placement

Students who take Advanced Placement courses and an Advanced Placement Test of the College Entrance Examination Board in secondary school may be awarded advanced placement and credit at the college. Credit is granted on the basis of a three or better grade on the Advanced Placement Test.

Cooperative Venture in Advanced Placement

Northern Essex Community College and Greater Lawrence Technical School have entered into an agreement whereby students in specific programs at the high school may be admitted with advanced standing to specific programs at Northern Essex. For more information, contact the Coordinator of the appropriate technology program at Northern Essex, or speak with the Chairperson of the Department of Electronic Science at Greater Lawrence Technical School.

CLEP Credit

Northern Essex Community College awards credit in certain predetermined areas as measured by the College Level Examination Program (CLEP). Students should submit CLEP transcripts to the Admissions Office for indication of CLEP credit. Northern Essex will award the following CLEP examination credits earned by the achievement of the required score:

GENERAL EXAMINATIONS

CLEP Exam	Credits	Semesters	Score Needed
English Composition (Comp I & II)	6	2	530
Mathematics	6	2	421
Humanities	6	2	421
Natural Sciences	6	2	421
Social Sciences and History	6	2	421

SUBJECT EXAMINATIONS

CLEP Exam	NECC Equivalent	Credits	Semesters	Score Needed
Intro Accounting	AC6601/6602 Intro Acc'ting I/II	8	2	47
Intro Business Law	LW6651 Business Law	3	1	51
Intro Business Management	Business Elective	3	1	47
Computer & Data Process.	CT6631 Intro to Data Processing	3	1	47
Intro Marketing	MK6678 Principles of Marketing	3	1	48
Educational Psychology	PS1153 Educational Psychology	3	1	46
Human Growth & Develop.	PS1203 Developmental Psychology	3	1	45
College Algebra & Trig.	MA5621 College Algebra & Trig.	4	1	45
College German	GM4401/4402 Intro German I & II	6	2	40
General Biology	BI5511/5514 Intro Botony/Zoo.	8	2	46
General Chemistry	CH5501/5502 Gen. Chem. I & II	8	2	47
American Government	GV3313 Federal Government	3	1	47
American History	HI9913/9914 U.S. History I & II	6	2	45
Intro Macro Economics	EC3323 Macro Economics	3	1	48
Intro Micro Economics	EC3322 Micro Economics	3	1	47
General Psychology	PS1101 Intro Psychology	3	1	47
Western Civilization	HI9901 Western Civilization I	3	1	46
	HI9902 Western Civilization II	3	1	47
Intro Sociology	SO3320 Intro Sociology	3	1	47

Credit For Life Learning

The Credit for Life Learning Policy provides the opportunity to award college credit to students who demonstrate that their knowledge and skills are the equivalent to those gained in a course or courses offered by the college.

Students interested in credit for life learning should contact the Registrar's Office for the appropriate forms. The process for obtaining credit for life learning is individualized and may include a challenge examination, one or more personal interviews, preparation of a portfolio, and other detailed evidence that students know the content or possess the skills offered in a course for which Northern Essex Community College grants credit.

When the general requirements (and those requirements of the particular department involved in the process) are completed, a decision concerning the awarding of credit for life learning will be forwarded to the student and to the Registrar's Office by the Committee on Credit for Life Learning. The Registrar will enter the credit awarded on the student's permanent record indicating that the credit has been awarded and that it has been earned by the Credit for Life Learning process.

Credit earned through this process may be applied toward graduation. However, it is the policy of this college that 24 credits toward graduation must be earned at Northern Essex. Credit for Life Learning may not be substituted for these 24 credits. Any student in a one-year certificate program must earn at least 12 credits in classroom activity at Northern Essex Community College.

Post-Graduate Credit

Credit at Northern Essex may be granted for courses which have previously been counted toward a degree which an individual has been granted (whether baccalaureate or associate degree) provided the courses previously taken are applicable to the Northern Essex curriculum in which the student is currently enrolled.

Withdrawing From the College

A student must complete the appropriate forms if it becomes necessary to withdraw from the college. Information is available in the Admissions Office or the Registrar's Office.

Readmission to the College

Students who, for any reason, do not continue to take courses at Northern Essex must apply for readmission to the college. If they choose to return to the program in which they were formerly matriculated, they must make application for readmission to the program following the procedures of the Admissions Office.

TUITION and FEES

The Board of Regents of Higher Education of the Commonwealth of Massachusetts has established mandatory and discretionary fee schedules for all community colleges in the Commonwealth. All fees are subject to periodic change. At the present time, Northern Essex limits charges to the following fees (also subject to change):

Day Division Fees

Application Fee

Massachusetts Residents (non-refundable).....	\$10.00
Non-Residents (Non-refundable)	\$35.00
Non-Residents/Foreign Students (Non-refundable)	\$35.00
Student Activity Fee (per credit hour)	\$2.00

NOTE: This fee is refundable if withdrawal is made prior to the first class day of each semester; no refunds thereafter.

Insurance Fee (Basic Plan - per year)	\$12.50
Degree Candidate's Fee (Non-refundable)	\$25.00

Tuition - Massachusetts Residents

Per semester - full-time students (12 credits or over).....	\$354.00
Per credit hour - part-time students (11 credits or under)	\$29.50
Tuition - New England Regional Program Students	
Per semester - full-time students (12 credits or over).....	\$444.00
Per credit hour - part-time students (11 credits or under)	\$37.00

NOTE: Non-resident students enrolled in the New England Regional Student Program pay the resident tuition rate PLUS a 25% surcharge.

Tuition - Non-Residents

Per semester - full-time students (12 credits or over).....	\$1200.00
Per credit hour - part-time students (11 credits or under)	\$100.00

NOTE: Non-residents may qualify for New England Regional Student Program assistance to reduce tuition costs. Inquiries should be made to the Admissions Office.

Institutional Education Fee (per credit hour)	\$5.00
---	--------

NOTE: This fee is refundable if withdrawal is made prior to the first class day of each semester; no refunds thereafter.

Transcript Fee (per copy after initial free copy)	\$1.00
---	--------

Day Division Tuition Refund Policy

Any refund of tuition and fees is based upon the date of official, written withdrawal from the college. Complete withdrawal from college, if occurring **prior to** the start of the semester, will result in a complete refund, including all fees, except for a \$35.00 seat deposit. Complete withdrawal from college **on or after** the first day of the semester will result in a forfeiture of all fees plus the \$35.00 seat deposit, and a refund of **tuition only** will be calculated according to the following schedule:

- 90% refund of **tuition only** if withdrawal is made during the first week of classes
- 70% refund of **tuition only** if withdrawal is made during the second week of classes
- 50% refund of **tuition only** if withdrawal is made during the third or fourth week of classes

Students whose course load drops below twelve credits will be given a refund of tuition and fees based upon the above schedule; that is, no fees refunded if drops are made **on or after** the first date of the semester and **tuition only** after that date.

Division of Continuing Education & Community Services Fees

Tuition - credit courses (per credit hour)	\$42.00
Tuition - non-credit courses (based on contact hours)	varies
Tuition - Nursing courses (per credit hour)	\$104.50
Institutional Education Fee (per credit hour)	\$5.00
Registration Fee (Non-refundable)	\$6.00
Late Registration Fee (Non-refundable)	\$5.00
Insurance Fee	varies

NOTE: Continuing education students are now eligible for student insurance.

For information on insurance coverage and rates, contact the Bursar's Office.

Degree Candidate's Fee (Non-refundable)	\$25.00
Transcript Fee (per copy after initial free copy)	\$1.00

Division of Continuing Education & Community Services Tuition Refund Policy

Tuition is refunded according to the following policy developed by the Massachusetts Board of Regents of Higher Education:

100% refund of tuition, Institutional Education (IEF) fees and materials fees will be granted for courses which are dropped prior to the first class. There will be no refund of IEF fees and/or materials fees for courses dropped after the first class. A 50% refund of **tuition only** for courses dropped before the third class. No refund will be granted after the start of the third class.

Refund policy for Nursing courses NS6603, NS6604, NS6653 and NS6654 is as follows:

A 100% refund of tuition and the IEF fees for courses dropped prior to the first class. A 50% refund of **tuition only** for courses dropped by November 1, 1984. No refund will be granted for courses dropped after November 1, 1984.

Audit of Classes

The cost to audit classes in the Day Division and in the Division of Continuing Education & Community Services is the same rate as listed above.

Residency

To be eligible for the in-state tuition rate within the Day Division, students must be residents of Massachusetts. In general, one is considered a Massachusetts resident if one has been in continuous residence in Massachusetts for **twelve months** immediately prior to the date of application to the college and has established a domicile in Massachusetts.

There is no residency requirement for students in the Division of Continuing Education & Community Services.

Information for New England Regional Students

Students who are legal residents of any New England State may be eligible for consideration under the New England Regional Student Program. Such students may take advantage of a reduced tuition charge. A student accepted under this programs pays the Massachusetts in-state rate PLUS a 25% tuition surcharge fee.

Tuition-Free Study

Every student aged 60 or older may take courses at the college tuition-free on a seat-available basis (students are responsible for payment of all fees).

Charge-A-Course (MasterCard/VISA)

Students may charge tuition and fees for courses taken in the Day Division and the Division of Continuing Education & Community Services. Procedures and appropriate forms are available in the Bursar's Office located in B Building.

Financial Obligations

Fulfilling the terms of their financial contract with the college will guarantee students the right to receive documents confirming their attendance at the college and permit them to register for subsequent classes.

Change of Address

If at any time students change their legal or mailing address they should notify the college immediately so that their records can be brought up to date.

FINANCIAL AID

Financial aid is available for eligible full-time and part-time students matriculated in a degree program in the Day Division and in the Division of Continuing Education & Community Services. Lack of financial resources should not prevent a student from pursuing higher education. Federal and state funds are available to help students meet their educational costs. Financial aid can be either gift aid, which does not need to be repaid, or self-help aid. Scholarships and grants are forms of gift aid. Student loans and employment are forms of self-help.

Financial aid is awarded based on need. Need is the difference between the cost of education and what the family or an independent student is financially able to contribute. Your family contribution is determined through an analysis of the income information reported on the Financial Aid Form (FAF). The FAF is sent to the College Scholarship Service in Princeton, New Jersey. The College Scholarship Service makes no financial aid awards, but is a processor of submitted information. The results are then sent to the colleges and agencies you have designated should receive the information.

The Financial Aid Form is the application used to determine your eligibility for awards made by Northern Essex Community College, awards made by state scholarship programs, and awards made by the Pell Grant program. You can obtain a copy of the FAF from a high school counselor or from the N.E.C.C. Office of Financial Aid. If you have attended another post-secondary institution, you **must** submit a Financial Aid Transcript whether or not financial aid was received.

The aid programs were begun to help students meet the cost of education. It is the philosophy of the federal government that parents have the primary responsibility to contribute to the higher educational expenses of their dependent children. If an applicant receives support from a parent(s), then the parental income must be reported. This support is not limited to cash payments but may be in the form of low-cost housing, transportation or board provided by the parent. Parental income is not required of applicants who are self-supporting or who do not derive support from parents. You must meet all of the following requirements to be an independent student:

Has not or will not be claimed as an exemption for income tax purposes except by the spouse in the year prior to and the academic year aid is requested,

Has not or will not receive financial assistance in excess of \$750 from parents in the year prior to and in the academic year aid is requested and,

Has not or will not live for more than six weeks in the parent's home in the year prior to and in the academic year aid is requested.

The financial aid application should be made as soon as attendance is contemplated. The Financial Aid Form usually takes six weeks to process. If funds awarded by Northern Essex have been committed, then applications received after the awards deadline will be reviewed as additional funds become available. The preferred filing deadlines for financial aid are April 15 for September enrollment, November 1 for January enrollment and April 1 for summer classes.

Students who are enrolled in a degree or certificate program for more than six credit hours per semester, and are making satisfactory academic progress, will be considered for financial aid. Students who are not making satisfactory academic progress are ineligible for financial aid.

Satisfactory Academic Progress

Northern Essex Community College has adopted the following criteria to determine satisfactory academic progress. A student who is not making satisfactory academic progress will be prohibited from receiving all Title IV student financial assistance (Pell Grant, Supplemental Educational Opportunity Grant, College Work-Study, National Direct Student Loan, Guaranteed Student/PLUS Loan, and State Student Incentive Grant Programs) as well as all other funds administered by the Office of Financial Aid:

1. The student must be enrolled as a matriculated student or be accepted for enrollment in an eligible program.
2. The student must not be on suspension in accordance with the college academic rules published in the catalog.
3. The student must earn a minimum number of credits, according to his or her enrollment status at the end of the refund period, that would lead to graduation in the maximum number of semesters (increments) as indicated below (for these purposes, only courses taken at N.E.C.C. will be considered):

Enrollment Status	Maximum Semesters		Minimum Earned Credits/Sem
	Assoc.	Cert.	
Full Time (12+ cr.)	7	3	9
3/4 Time (9-11 cr.)	9	4	7
1/2 Time (6-8 cr.)	13	6	5

4. The standards above will be used for all semesters except the student's first semester at

N.E.C.C., when the minimum earned credits required will be 50% of the credits attempted.

5. Students transferring to the college will have their increment (semester) status determined by the number of transfer credits applicable to their N.E.C.C. degree program.
6. The student's complete academic history at N.E.C.C. will be reviewed for purposes of satisfactory academic progress, including credits attempted while not receiving Title IV aid.
7. A student changing academic programs must be maintaining satisfactory academic progress in the original program to be eligible for aid in the first semester of the new program; the increment status of the student in the new program will be determined by the number of earned credits applicable to the new program.
8. Grades of I, NP, NG, W, WF and WP and other non-punitive grades will not be considered as earned credits. Successful completion of non-credit remedial courses will be required to maintain satisfactory academic progress, but non-credit remedial courses will not be used to determine the increment status in subsequent semesters. Repeated courses will be utilized in the credits earned calculation.
9. If a student fails to meet the minimum credit earned criterion as described above, the Director of Financial Aid, or designee, may allow a student to receive a probationary semester during which aid is awarded to allow the student to reach the criteria for satisfactory academic progress. At the end of the probationary semester the student must attain the criteria for satisfactory progress or else aid will not be given for future semesters; however, if a student attains a 2.0 GPA during the probationary semester, but still does not meet the minimum criteria, a second probationary semester may be allowed.
10. A student who withdraws from two consecutive semesters after receiving a financial aid payment will be considered not to be making satisfactory academic progress. Prior to reconsideration for financial aid the student must earn 9 credits with at least a 2.0 GPA at Northern Essex and be in compliance with the standards of the satisfactory progress statement.
11. Personal circumstances such as illness, family circumstances, length of time since previous enrollment or, for a student who changes objectives, the nature of the new coursework as compared to previous coursework may be considered as mitigating circumstances. The college may then award the student a probationary semester based on these mitigating circumstances, and may make the student subject to a new maximum time frame after establishing a new objective without regard to courses attempted previously.
12. A student who is determined not to be making satisfactory academic progress may appeal the decision based on extraordinary circumstances. A student wishing to appeal should use the process established for reviewing students for consideration as "special students". If the Director of Financial Aid and the Special Student Counselor agree, the student may be allowed a probationary semester during which aid is awarded to allow the student to reach the criteria established for satisfactory academic progress.

Financial Aid Award Package

An award package may be a combination of any of the following aid programs:

Massachusetts Board of Regents Tuition Waiver: The Massachusetts Board of Regents, the legislative governing board of all public institutions of higher education in the Commonwealth of Massachusetts, has adopted a Tuition Waiver program to

ensure that those students most in need receive the financial assistance necessary to begin or continue their education at the post-secondary level.

In order to be eligible, a student must 1.) be a legal resident of Massachusetts (a Proof of Residency Form must be submitted to the Admissions Office); 2.) be enrolled in a degree/certificate-granting program of study; 3.) be maintaining satisfactory academic progress; 4.) have applied for a Pell Grant; and 5.) demonstrate financial need. Recipients of the Massachusetts Board of Regents Tuition Waivers will not pay any tuition costs (associated with Day Division courses only); however, all fees and other related expenses exclusive of tuition must be paid by the student receiving the waiver.

Financial need is determined by the Office of Financial Aid utilizing the federally approved financial needs analysis system. This system assures that equitability and standardized criteria for determining need will be vigorously applied to each candidate's particular case. The Financial Aid Form (FAF) is the **only** method of application.

Supplemental Educational Opportunity Grant (SEOG): a grant for students who would be unable to attend school without this aid. This award is limited to undergraduate students. If you have a bachelor's degree, you are not eligible for this aid. The Financial Aid Form (FAF) is the **only** method of application.

National Direct Student Loan (NDSL): a low-interest, long-term loan awarded by Northern Essex. Loans may not exceed \$2,500 for the first two years of college and \$5,000 for undergraduate study. The interest rate of 5% begins six months after you cease to be a student. While the repayment period extends up to ten years, there is a minimum monthly payment of \$30.00. The Financial Aid Form (FAF) is the **only** method of application.

College Work-Study (CWS): provides an opportunity for students to work. It is awarded to students with the greatest need. Jobs are on campus and attempts are made to find vocationally related positions. Students are paid every two weeks for the hours they have worked. The Financial Aid Form (FAF) is the **only** method of application.

Guaranteed Student Loan Program (HELP Loan): a low-interest, long-term loan available through participating banks. The 8% interest charge for new borrowers will be paid to the bank by the federal government while you are in school and during a six-month grace period after you leave school. A student may borrow up to \$2,500 per year to a maximum of \$12,500 for undergraduate study. Applications are available through local banks.

There are two other need-based programs which Northern Essex does not award, but does administer:

Pell Grant: a program funded by the federal government. Once you have completed the application process, a Student Aid Report (SAR) will be sent directly to you. If you are entitled to receive a Pell Grant, the award amount will be based on the cost of education, your enrollment status and your eligibility index. All three pages of the SAR must be sent to the Office of Financial Aid before you can receive a grant. The Financial Aid Form (FAF) is the **preferred** method of application.

Massachusetts Board of Higher Education Scholarships: awarded to needy students who are Massachusetts residents. The Massachusetts State Scholarship is for \$360. The deadline for filing for Massachusetts Board of Higher Education Scholarships is March 1st. The Financial Aid Form (FAF) is the **only** method of application.

Additional Scholarship Sources

In addition to the need based aid programs administered by the Financial Aid Office, N.E.C.C. students may wish to apply to one or more of the following scholarship programs. Application information is available in early Spring.

N.E.C.C. Scholarship Awards: A series of full tuition scholarships based on academic excellence, distinctive contributions to the community or athletic ability.

N.E.C.C. Faculty Association Scholarship: Seven scholarships in the amount of \$150 or \$250 are awarded to students with at least a 3.0 grade point average.

N.E.C.C. Foundation Scholarship: Four scholarships of \$300 are awarded to students with at least a 3.5 grade point average.

N.E.C.C. Alumni Association: One N.E.C.C. student is awarded each year.

Bevilacqua Scholarship: A scholarship for current students with a 3.0 grade point average who are residents of Haverhill and who have demonstrated involvement in public service.

Betty Jo Coppola Scholarship: An annual award to a day Nursing student based on academic performance and financial need.

The Kerrie Newcomb Memorial Scholarship: An annual \$100 award to a second year student in the Criminal Justice Program.

Lung Association Scholarships: Four \$500 health career awards are available for students in the Nursing, Respiratory Therapy and other health curricula.

Haverhill School Committee Scholarships: The Committee makes numerous awards from seven scholarship funds to Haverhill residents entering college each year.

City of Lowell Scholarship Grants: There are eight \$300 two year scholarships awarded each year to entering students who are residents of Lowell.

Massachusetts National Guard Tuition Waiver Program: Full tuition exemptions are available for all members of the Massachusetts Army and Air National Guard.

Air Force ROTC Scholarship: Application can be made at the end of the freshman year by students with at least a 2.5 grade point average who are enrolled in the ROTC program.

Soroptomist Foundation Scholarships: This award is to promote upward mobility in mature women who would like to enter college after being out of the workforce for a number of years.



STUDENT LIFE

The College Center is home base for co-curricular activities at Northern Essex. The following offices, services and activities are located in the center:

- Student Activities Office
- Student Senate
- Game Room
- Student Newspaper Office
- Student Radio Station
- Counseling Office
- Office for Students with Disabilities
- Veterans Club
- Placement and Career Services
- Student Health Service
- Cooperative Education Office
- Study Lounge/Television Lounge
- College Bookstore
- College Cafeteria
- Gallaudet College Regional Center

In addition to the offices, services and activities above, the College Center hosts coffeehouses, small concerts and full-length feature films.

Student Activities Office

The Student Activities Office provides a comprehensive program of extra-curricular events for all Day Division students. Concern for the extra-curricular needs of the community college student is an ongoing priority in the Student Activities Office.

Student I.D. Card

All Day Division students are required to carry an I.D. card. This means of identification is necessary for library rentals, admittance to the College Center gameroom, and to establish eligibility for student discounts at athletic contests and off-campus activities. Students must have I.D. photos taken at the Student Activities Office during posted times each semester.

Student Government

Northern Essex provides a system of student government through which students can learn democratic principles, parliamentary procedure, leadership styles and skills, decision-making, group dynamics, the complexity of interorganizational relationships, change-agency, long and short-term planning, representation of constituencies and financial planning.

Each semester students are assessed an activity fee. This fee entitles individuals to membership in student government, and to representation elected by the student body. Elections of representatives are held during the fall semester. Representatives serve for a one year period or until they graduate in the following spring. Those who will return in the following fall semester are appointed by the President of the College on an interim basis during the summer months. As the governing body, the representatives participate in the formation of student organizations and become involved with the budgeting and expenditure of the Student Activity Fund. The student activity fee is optional for students enrolled in the Division of Continuing Education & Community Services. Payment of the activity fee entitles Continuing Education students to the same privileges as Day Division students.

Co-Curricular Activities

The Student Activities Program, funded by the Student Activities Fund, is designed to supplement, complement and interact with academic studies. Through a network of staff interaction, faculty advising, clubs, teams and other groups, students can share ideas and interests, make choices, interact and communicate, socialize, form relationships and gain confidence and self-awareness.

The program offers an active intramural and recreation program. Intramural courses are scheduled during the free noon hour on Monday, Wednesday and Friday. A varied list of activities includes 3-on-3 basketball, racquetball, flag football and dancing. The recreation program provides opportunities for students to participate in trips, lectures and demonstrations on and off campus.

The Program Committee, made up of members of the Student Senate, sponsors a regularly scheduled entertainment series which brings group and individual entertainers to the campus.

The Student Activity Program supports student publications and more than thirty clubs ranging from dance, theatre, photography and contemporary affairs, to newspaper reporting, radio broadcasting, weightlifting, skiing and karate. All specialized groups and clubs are approved by the Student Senate. Requirements for approval include a defined name and purpose, a designated faculty advisor, active membership, and elected officers to lead and conduct the group's business.

For complete information on the Student Activity Program, contact the Student Activities Office, Room F-122 in the College Center.

Varsity Athletics

The purpose of athletics at Northern Essex Community College is to provide a chance for the highly skilled student athlete to participate in competitive sports with individuals of like

ability from other institutions of higher education. Presently, N.E.C.C. participates in varsity soccer, fall and spring baseball, basketball for men and women, and softball for women. There are plans to add women's field hockey in the immediate future. Northern Essex participates in two competitive leagues: the Greater Boston Small College Conference comprised of many colleges in the Boston metropolitan area, and the Massachusetts Community College Athletic Conference.

Campus Guidelines

Northern Essex Community College supports a code of student rights and responsibilities designed to provide an atmosphere in which sound intellectual and academic development is possible. A detailed statement of student responsibilities and rights is found in the Student Handbook.

Publications

No student or group of students in connection with any publication, public performance or social activity shall use any name or designation that implies a relationship with the college without the sanction of the President of the College or the officers he designates.

Alcohol/Drugs

The college complies with all state and federal laws governing the possession, use and sale of alcohol and other drugs, and other illegal substances on campus and at all campus-sponsored activities.

Housing

No housing facilities are provided by or supervised by the college. Students who wish to move into the immediate college area may rent housing; the Director of Student Activities maintains a list of available housing. Students are expected to respect the rights of the people from whom they rent housing and conduct themselves courteously.

Student Grievance Procedure

The primary purpose of this procedure is to secure prompt and equitable resolution of a grievance. Customary channels of communication shall be used wherever feasible, in seeking clarification of questions of concern, before the grievance procedure is utilized. Every effort shall be made to maintain confidentiality of each level of the following procedure:

LEVEL ONE

Step 1: The grievant shall first present his/her grievance orally and informally to the person against whom the grievance exists. This should be done in a reasonable period of time, within 30 calendar days from the date of the grievance action or from the date that the grievant knew of the grievable act.

Step 2: If the grievance is not resolved within 5 working days, the grievant may present in writing the allegations supporting the grievance, including all the known facts, to the person against whom the grievance is directed. The person against whom the grievance is directed must respond in writing within 5 working days to the grievant.

Step 3: If the grievance is not resolved within the said 5 working days, the grievant may present it in writing to the supervisor of the person against whom the grievance is directed. The supervisor must respond in writing within 5 working days, with his/her decision to the grievant.

Step 4: If the grievance is not resolved within the said 5 working days, the grievant may present a formal claim in writing, including all the supporting statements and

evidence, to the College Student Grievance Committee. Within 10 working days after receiving the written grievance, the committee shall state its decision in writing, with all supporting reasons and evidence to the grievant and the person against whom the grievance is directed.

LEVEL TWO:

Within 5 working days after receiving the decision from Level One/Step Four, the grievant may appeal the decision to the President of the College. This appeal shall be in writing and shall be accompanied by the original complaint and copies of all previous supporting statements, evidence and decisions. The President shall evaluate the evidence and make his/her decision, in writing, within 10 working days after receiving the appeal, to all concerned parties. The decision of the President is final and binding.

More information on this procedure is available in the office of the Dean of Student Services.

GETTING ADVICE AT N.E.C.C.

Counseling

Northern Essex has a staff of professional counselors who understand the problems of the commuting student, the demands of academic life, and the uncertainties students may feel about educational planning, the details of transferring to another college for further study, and selecting an appropriate career. Whether you are a traditional or non-traditional student, the Counseling Staff can provide counseling and consultation in the following areas:

Career counseling: individual appointments and group workshops to assist you in choosing, changing or preparing for careers.

Degree requirements: help with planning a course schedule which will meet the requirements of your degree program.

Personal problems: the counseling staff is trained to help you solve your personal problems, or to refer you to someone else who can help.

Walk-in counseling is available, or you may make an appointment in advance. All counseling is confidential. Counselors are located in Room F-118 in the College Center and in the Continuing Education & Community Services Office, Room B-204 in the Applied Science Building.

North Essex Health Resource Center

The North Essex Health Resource Center (N.E.C.M.H.S.) offers a community service component located at Northern Essex Community College. N.E.C.M.H.S. offers consultation and counseling for life's transitions, stress management, creative problem solving, goal setting, assertiveness training, issues of loss, relationship issues, parental effectiveness, increased self awareness and professional development for human service providers.

N.E.C.M.H.S. services are confidential. For further information and to arrange an appointment, call the main N.E.C.M.H.S. office at (617) 462-4644 or (617) 388-5652.

Academic Advising

Each student is provided with an advisor, usually a member of the college faculty, who will help the student utilize the resources of the college and the community to achieve academic, career and personal goals.

Veterans Information

Anyone who is a veteran (or eligible dependent) and wishes to obtain information about educational benefits, veteran work-study program and general services can contact the Registrar's office. Those individuals who apply to the college for admission and are accepted into a program must initiate veteran's certification for educational benefits at the Registrar's office. One must qualify for one of the federal programs, be enrolled on at least a half-time basis, and have a notarized copy of the DD214 available for school use.

In addition, many veterans who are Massachusetts residents (enlisted at an in-state location) may qualify for tuition exemption in the Day Division and/or in the Division of Continuing Education & Community Services. Information about the veterans' tuition exemption program is also available at the Registrar's office.

Veterans or eligible dependents must be certified at the beginning of each semester. Veterans Action Forms, which initiate or continue certification, are available in the Registrar's office. General assistance and counseling is also available through the staff of the Counseling and Continuing Education offices.

Cooperative Education & Placement

The Office of Cooperative Education & Placement, located in the College Center, includes the campus office of the Massachusetts Division of Employment Security, the Career Resource Library, credential files and the Placement and Cooperative Education counselors. The Office provides students with the kind of career and employment information needed to understand the implications of their educational and vocational decisions. Services available are:

Massachusetts Division of Employment Security (D.E.S.) coordinates its efforts with N.E.C.C. in servicing students, alumni and the community. The D.E.S. office is staffed by a full time counselor and provides a variety of services geared to help those who need assistance in making vocational choices or changes. Daily job listings and a microfiche reader provide the latest professional, state and local job listings, full and part time. For an appointment, telephone (617) 374-0721, extension 180 or 187.

Job postings from employers are available at all times. Many of the positions are directly related to academic programs and could provide students with good entry level opportunities and the necessary work experience to make it easier to obtain employment after graduation.

Recruiting programs are scheduled regularly. Employers come to the campus in search of employees and participate in job fairs. These informal gatherings are popular, providing opportunity to obtain career information and the possibility of securing a job. Notices of on campus recruitment efforts are posted in the Career Resource Library and at other locations throughout the campus.

The Career Resource Library includes general, training and employment outlook information on specific careers; books relating academic majors to possible career choices; references on career planning, the job search and the decision making process; catalogs for potential transfer students; books and materials describing

sample resumes, cover letters and hints for interviewing; recruiting brochures and annual reports of companies, organizations and agencies; and many other selected career and employment materials.

Announcements of job openings in the area are sent to students registered for this service. To be eligible registration, a person must be enrolled currently in at least one class at Northern Essex.

The Credential Service maintains lists of credentials to be forwarded to potential employers. Individuals seeking this service should provide a file including a current resume, references, unofficial college transcript, and any other items that may be helpful in obtaining employment. When specifically requested in writing by the owner of a file, this information will be forwarded to a potential employer.

Other assistance offered by the Career Center includes help in resume construction and interviewing techniques, career counseling and cooperative education information. The Cooperative Education & Placement Office staff will offer what assistance it can, and make referrals to other staff members at the college for further assistance.

Office for Students with Disabilities

The Office for Students with Disabilities (OSD) exists to help the college meet the special needs of students with physical, sensory, emotional and learning disabilities and chronic diseases. OSD provides such services and auxiliary aids as are necessary to enable students with disabilities to participate to the fullest extent possible in all college programs and activities.

OSD maintains close working relationships with the various vocational rehabilitation agencies, often serving as an advocate for students. Prospective students and their parents or service providers are encouraged to call with any questions or to arrange a visit to the college. All public buildings on campus are equipped with necessary ramps, elevators and accessible restrooms. Students whose disabilities restrict their ability to take class notes may request notetakers/scribes. OSD works with individual students and instructors to help meet the particular needs of each student. Preferential scheduling, parking and other accommodations are provided as appropriate. OSD helps students with visual impairments by providing readers when necessary. The college maintains Kurzweil and Visualtek reading machines, and can instruct people in their use. Students are helped to obtain tape-recorded or braille editions of their books. There is a braille dictionary, and other braille and recorded publications, in the Learning Resources Center. Assistance to students with learning disabilities includes tape-recorded books, untimed tests, personal counseling and other services.

The Students with Hearing Impairments Program (S.H.I.P.) is a special program of support services, counseling and developmental courses for students who are deaf, hard of hearing or deaf-blind. Support services available include interpreters/transliterators (ASL, signed English, oral and deaf-blind), notetakers and tutors. The S.H.I.P. works closely with the college's academic Support Center (the A.S.C.) to provide developmental assistance in reading, writing, (grammar) and mathematics. The S.H.I.P. serves to make all the college's regular programs and activities accessible to students with hearing impairments. The O.S.D. makes available to students, on a short-term loan basis, television closed-caption decoders and TDD's. The O.S.D. will soon have an FM auditory transmission system for students who are hard-of-hearing. Captioned films are shown weekly. The Northeast Independent Living Program provides assistance with independent living skills training, personal care attendants and housing. An N.I.L.P. staff outreach worker is on campus three days a week.

Anyone with any questions regarding OSD services may call the office. The O.S.D. is located in the College Center, Room F-113. Telephone (voice) at (617) 374-0721, extension 267; or by TDD (TTY) at (617) 373-1720. Division of Continuing Education & Community Services students should contact the Continuing Education Office, Room B-204 in the Applied Science Building, telephone (617) 374-0721, extension 245.

Health Services

The Student Health Service is staffed by a full-time nurse director and a part-time registered nurse, under the direction of the school physicians. The Health Service is open daily, Monday through Friday, 8 a.m. to 4:30 p.m. in Room F-135 in the College Center. The physicians hold regularly scheduled clinic hours each week.

The Health Service provides first aid care for acute illnesses, crisis intervention, immunizations, treatments, counseling, referrals to a variety of agencies in the surrounding communities, and follow-up as needed. All services provided, including physician services and supplies, are free of charge to students. Prescriptions written by the school physician may be filled at a pharmacy of choice at the student's own expense. Gynecological services are available, including Pap smears, for a nominal fee. Care for chronic medical problems and extensive laboratory, medical and x-ray work-ups are not provided by the Health Service. Assistance will be given with referrals to outside agencies or medical specialists as needed; in such cases the student is responsible for expenses incurred.

A major emphasis of the Health Service is preventive health education. The Health Service provides on-going programs in health and fitness awareness held each semester, as well as on-going outreach health clinics including health screenings, health education and referrals to community health resources.

The Health Service staff is available during office hours to respond to emergencies. All emergencies should be reported to the switchboard operator who will page a nurse. At other times, and for serious illnesses or injuries, a community-based ambulance service is used for transportation to nearby area hospitals.

A student may be asked to complete a form describing general health, health history and any supportive services that may be required before services are rendered. For practicum/clinical placement, more complete health records are required. Students will not be allowed to participate in the clinical portion of their program until all information is on file.

Student Health Insurance: all students in the Day Division are required to carry the basic Student Health Insurance plan. This plan is optional for students in the Division of Continuing Education & Community Services. Every accident must be reported to the college nurse. Claim forms for medical expenses are available at the Health Service and must be submitted by the student in order to realize insurance benefits.

Students are encouraged to elect the Supplemental Accident and Sickness Insurance Medical Plan at a nominal additional premium. This extended plan may be designed to include other family members also. This extended plan is especially important for students who will become 19 years of age during the college year and may not be eligible for coverage under their parents' insurance plans. A complete description of both plans will be made available.



ACADEMIC SUPPORT

Academic Support Center

The Academic Support Center assists students in developing the skills necessary to succeed in college.

The Academic Support Center offers courses and drop-in services in reading, writing and math, as well as assessment of skills, academic counseling, and tutoring in the content areas.

Students who are uncertain about their goals or abilities, who had an unrewarding high school experience, who are unfamiliar with the demands of college, or who need to improve their basic skills are urged to contact any of the following areas for further information or assistance.

Assessment Center

This Assessment Center helps students become aware of their ability levels in the areas of reading, writing and mathematics. Such awareness is crucial for future

success in a college environment. Students and prospective students may make arrangements for assessment testing in basic skills and English as a foreign language, learn about developmental courses available at Northern Essex and, if qualified, make arrangements for private peer tutoring. The College-Level Examination Program (CLEP) is offered through this Center. Students who are interested in assessing and improving their academic skills are invited to visit or call the Assessment Center (Room C-201, Extension 263) at any time during the academic year.

ESL Cluster

The English as a Second Language (ESL) Cluster provides ESL courses and counseling to individuals who need to build English language skills. The ESL office is located in Room C-213 (extension 290) at the Haverhill campus. Or, call the Lawrence Education/Employment Project (LEEP), located on the third floor of the Lawrence Public Library, at 683-4259.

Math Lab

The Math Lab provides services to students ranging from basic arithmetic to advanced topics in calculus. Students may request initial testing to determine their strengths and weaknesses for proper placement in the developmental courses Basic Math and Basic Algebra, or for other math courses. The staff of the Center pride themselves in being especially sensitive to individual needs. Problems such as test-taking and math anxiety are addressed on an individualized basis. The services are available to all students and to members of the community on a drop-in basis. For more information contact the Math Center at extension 225, Room C-211.

Reading Lab

The Reading Lab assists individuals in developing effective reading and study skills. To accomplish this, all students coming in to the Center receive an assessment of their strengths and weaknesses. A student may enroll in one of two courses offered for credit: Introduction to Reading Strategies addresses the remedial needs of students; Reading Strategies is the more advanced course designed to help students read more effectively at the college level. An individualized course of study may also be developed. Each student receives ongoing personal attention from Reading Lab staff while having the opportunity to interact with fellow students. Assistance on a drop-in or referral basis is also provided for students with specific requests. For more information contact the Reading Lab at extension 253, Room C-206.

Writing Lab

The Writing Lab helps students who need to improve their writing ability. It offers two courses for credit: Basic Writing, a three-credit course designed for students who lack the writing skills necessary for entering English Composition I, and Spelling Laboratory, a one-credit course providing individual help in spelling. Also, any student may drop in at any time or be referred for non-credit assistance with any writing problems. All students working in the Writing Lab receive a diagnosis of writing problems, a program of work and tutorial assistance to help them overcome those problems, and continual evaluation of their progress. For more information, call the Writing Lab at extension 252, Room C-203.

Learning Resources Center

The Learning Resources Center at Northern Essex provides supportive educational resources and programs, print and non-print. The center acts as a catalyst in the learning process through selection, development, construction, instruction, organization and evaluation of simple and complex learning materials. And, it acts as a community agent through its open access policy whereby the services and facilities of the LRC are available to all residents of the Merrimack Valley.

The LRC has a large collection of books, magazines and newspapers of scholarly and general reading interest. It also offers an extensive collection of audiovisual materials such as films, videotapes, filmstrips, records, slides, transparencies and audiotapes, as well as the equipment students and faculty need to use them.

The Instructional Media Center has facilities and staff to produce videotapes, slide programs and other instructional materials. Film showings can be arranged in the projection rooms. Videotapes can be shown in classrooms via closed circuit television. The college is also an origination point for the Haverhill cable TV system. A wide range of traditional audio-visual equipment and state of the art instructional technologies are available. The staff will be happy to provide instruction in the use of all equipment.

Specialized educational and instructional resources and programs are available to students with visual disabilities and/or learning disabilities. Students and faculty are able to use other Massachusetts public college and university libraries, as well as local area libraries. Additional educational resources are available for student use through the library's involvement in consortia such as the Merrimack Valley Interlibrary Cooperative and Essex County Cooperating Libraries.

Professional staff are on duty in the evening to assist continuing education students. Students registered in the Division of Continuing Education and Community Services, whether enrolled in a credit or special interest course, have full privileges for services and resources such as reference assistance, interlibrary loan, assistance in research, etc. Class orientations are given in the use of the LRC, and the staff is more than willing to give individualized help to any student who has a need to learn how to use a library.

When classes are in session, LRC hours are 7:30 a.m. to 9:30 p.m., Monday through Thursday and 7:30 a.m. to 5 p.m., Friday.

TRANSFER AFTER N.E.C.C.

Transfer Programs

The degree programs at Northern Essex formatted specifically for students who plan to transfer to a four-year college or university after graduation are Liberal Arts, Business Education, Business Transfer and Engineering Science. These programs parallel the first two years of similar programs in most public and private senior colleges throughout the country and provide a solid basis for transfer with advanced standing.

Career Program Transfer

Although career program courses are not specifically designed for transfer to a senior institution, they do have transfer potential. Many Northern Essex students in career programs have been accepted, after graduation, to programs in senior colleges related to their career fields.

It is the responsibility of each student to select courses at Northern Essex that will be acceptable for his/her chosen field of study at a senior institution of his/her choice. Careful study of the catalog of that institution will answer most questions. Students should request from the registrar of the senior institution they select a copy of that college's catalog. Counselor's at Northern Essex are readily available to help students work out transfer requirements.

Capstone Agreement

Capstone transfer agreements exist between N.E.C.C. and the University of Lowell, Bradford College, Emmanuel College, Salem State College and Wentworth Institute of Technology for transfer from specific programs at Northern Essex into specific programs at these senior institutions. For further information, contact the Admissions Office.

Commonwealth Transfer Compact

On May 9, 1984, the Board of Regents of the Commonwealth of Massachusetts adopted the following policy to become effective on September 1, 1984. This policy concerns all students who are transferring from a Massachusetts state community college to a four-year Massachusetts state college or university with an Associate of Arts transfer degree or an Associate of Science transfer degree:

Community College Transfer Degrees:

All college level courses taken in the community colleges will be applied first toward the fulfillment of the general education requirements of the receiving institution. The remaining course credits earned at the community colleges will be assigned toward the major requirements and/or the graduation requirements. Students are encouraged to place heavy emphasis on general education courses during their first year.

The Associate of Arts Transfer Degree

The basic community college program for the Associate of Arts Transfer Degree should involve a minimum of 33 semester hours in general education. As part of these 33 semester hours, each institution will require students to complete a minimum of semester hours in each of the following:

English Composition/Writing	6 s.h.
Behavioral and Social Sciences	9 s.h.
Humanities and Fine Arts	9 s.h.
Mathematics and Natural Sciences	9 s.h.

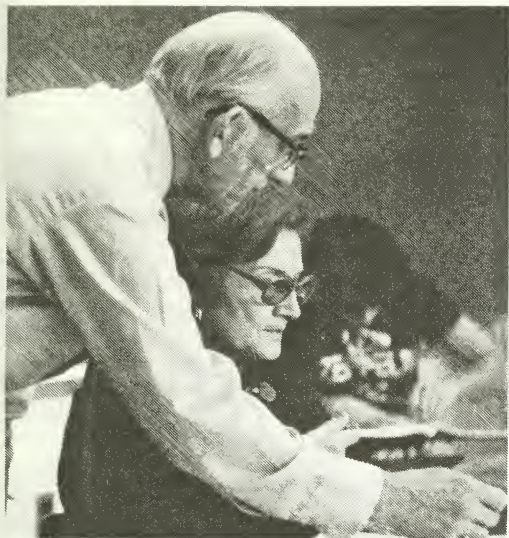
The Associate of Science Transfer Degree

The Associate of Science Transfer Degree recognizes a greater emphasis on the scientific, mathematical and technical competencies demanded of students and, therefore, must include a greater degree of concentration in these disciplines. Each community college is encouraged to develop a general education concentration within the transfer parameters, respective of the particular degree discipline offered.

The 60 credits that are granted will, under Compact policy, include D grades. Most colleges will not, however, grant credit for a D grade if it was earned in a course required for the major. The receiving institution is required to apply D credit toward a major only if it does so for students who originally enrolled in that institution as freshmen. Furthermore, all associate degree holders accepted for transfer under this Compact will be subject to no special requirements beyond those specified as major department and/or graduation requirements for students who originally enrolled in that institution as freshmen.

Therefore, if you plan to transfer to a Massachusetts state college or university, it is recommended that you complete your program and receive an associate degree, and that you include in your program of courses the core courses listed above as requirements for the Compact transfer.

If you have any questions or are treated unfairly when you transfer under the Commonwealth Transfer Compact, contact the Counseling Office in the College Center.



CONTINUING EDUCATION

The Division of Continuing Education and Community Services provides an alternative entry into the college.

The division serves everyone in the community interested in part-time education, with a central focus on the learning and interest needs of adults. The primary goal of the division is to help people improve existing skills or learn new ones and grow in scope of concern, in understanding and in personal satisfaction.

There are no special requirements for registration. Students may matriculate in a degree program, take a course because it appeals to them or develop a technical skill for a better job. They may take a developmental course to help them evaluate their educational potential, choose a special interest course, take a telecourse in their own homes or participate in workshops and seminars.

High school students not planning immediate entry into college after graduation should keep the option of continuing education in mind. Many continuing education students at Northern Essex transfer, when job and living requirements are satisfactorily arranged, into a full-time program in the Day Division. Others earn their degree entirely on a part-time basis.

Continuing education also designs specialized training programs - held on campus or at work sites - to meet the needs of particular businesses and industries. Courses prepared for high technology industries are especially relevant. The division also sponsors the Summer Session.

Academic Standards

The difference between college study in the Division of Continuing Education & Community Services and college study in the Day Division at Northern Essex is the approach students take toward their educational goals. Day Division students study full-time. In the Division of Continuing Education & Community Services, most students are fitting education into already busy schedules at home or on the job.

Academic standards and requirements, course content, curriculum requirements, course hours, credit hours earned, and counseling services in this division are, for the most part, identical to those in the Day Division. In addition, the division offers non-credit special interest courses which are not graded.

Counseling

Counseling is available during registration periods. New students and students not certain of their educational direction are particularly urged to make use of the counseling service for help in selecting the courses best suited to their individual needs and goals.

The Counseling Office offers programs throughout the year to serve the needs of continuing education students. Personal and academic counseling is available daily during each semester and in the summer. Anyone interested in continuing education is free to use the counseling services at the college. It is not necessary to be a student at Northern Essex to talk to our counselors.

Faculty

The faculty of the Division of Continuing Education & Community Services is drawn largely from members of the Day Division faculty, supplemented by selected professors from other colleges. From time to time, recognized community leaders with specialized skills join the staff.

Facilities

The facilities of the college - the library, classrooms, laboratories, the faculty, counselors - are available to students in the Division of Continuing Education & Community Services. In addition, the college offers course work, counseling and registration services at extension campuses in Andover, Dracut, Lawrence and Newburyport.

Continuing Education Publications

A comprehensive brochure listing the courses and services of the Division of Continuing Education & Community Services is published five times annually, prior to the fall and spring semesters, the November and April mini-sessions and summer session. Registration forms, registration dates and times, class schedules and a calendar are included. These brochures are currently distributed to all homes in the Merrimack Valley and southern New Hampshire. In addition, brochures and pamphlets are published to announce specific events and special sessions.

Academic Services

Credit courses are offered in a wide variety of subject areas. They may be taken individually or as part of a certificate or associate degree program. Associate degree programs are available in the Division of Continuing Education & Community Services in the liberal arts, business, health professions, human services, office and business education, and in the technologies. A modular program in Business Management is structured so that students may study on a part-time basis and still complete associate degree requirements in two years.

In addition to the associate degree programs available in this division, students may do substantial course work in other degree programs offered by the college's Day Division. Depending on the number of courses taken throughout the year, an associate degree can be achieved in two to four years.

Northern Essex, through the Community College of the Air Consortium, offers courses via television in a number of academic disciplines. Telecourses add a new dimension in convenience to the educational opportunities available at the college. Telecourse students

attend class in their own homes and at their own convenience, since most telecourse segments are broadcast more than once. Telecourse students supplement at-home viewing with assigned readings, workbooks, telephone conferences with the instructor and regularly scheduled, voluntary seminar discussions. An orientation session is held prior to the beginning of each telecourse.

Developmental courses are offered in basic reading, writing and mathematics for those students who need such work preparatory to entering a degree program. Cooperative education courses are also offered.

Community Services

Non-credit special interest courses are offered each semester in the Division of Continuing Education & Community Services. Offerings include a variety of topics such as developmental courses, outdoor adventures, English as a second language, career exploration and business workshops, GED high school equivalency preparation, recreational and leisure activities, physical conditioning, enrichment in the arts and self-development. Continuing Education Unit (C.E.U.) credit is available in the health professions and in early childhood education.

The division's community service program is designed to reflect the interests of the community and as such responds to the needs of both individuals and groups. The division acts as a resource for neighborhood groups, community organizations and agencies, schools, business and industry by offering workshops, conferences, individualized courses and training packages. The division also administers a variety of manpower training programs, and sponsors conferences, workshops, grass roots organizations and counseling for women.

Procedures

Admissions: No official application form is required for admission to courses in the Division of Continuing Education & Community Services. Anyone may register for any course offered in the division. A high school diploma is not necessary for registration. Students who wish to matriculate in an associate degree program, however, must meet the admission requirements of the college.

Registration: There are several methods of registration in the Division of Continuing Education & Community Services:

Registration by Mail: Students are encouraged to register by mail as soon as they receive the semester brochure currently mailed to all homes in the Merrimack Valley and southern New Hampshire. A registration form is included in each brochure. Complete the form and return it to the college with a check or money order payable to Northern Essex Community College for tuition and all fees.

On-Campus Registration: An on-campus registration period is scheduled preceding the beginning of classes for each semester. Students may come to the college at that time, talk to counselors, complete the registration form and pay tuition and fees.

Gold Card Registration: A Gold Card registration session is scheduled immediately following the regular registration period for each semester. At that time, elders who are 60 or older may register for credit and special interest courses on a seat-available basis without tuition charge. (Nursing courses are exempted from Gold Card registration.) The registration and other fees must be paid by Gold Card students.

Extension Campus Registration: Students may register at extension campus locations during scheduled registration periods for courses held at a particular

extension campus only. Students may also register for classes to be held at extension campuses at the main campus.

Other Registration Sites: Registration periods may also be scheduled at convenient central locations in the community. These sites are announced in the semester brochures.

Fees: Refer to the Tuition & Fees section in this catalog for information on Division of Continuing Education & Community Services tuition and other fees. Information on financial aid and tuition waivers available for continuing education students is included in the Financial Aid section.

Auditing: Courses for audit are available. Students who audit courses register as usual and pay the regular tuition and fees, but take no examinations, receive no grades and earn no credit hours.

Drop/Add: Students who wish to withdraw from, add or substitute a course must file a Drop/Add form with the Registrar. Forms are available in the Continuing Education Office and in the Registrar's Office. It is not sufficient to tell your instructor that you are dropping a course. Any student who does not officially withdraw from a course will receive a failing grade for that course.

Classes: Most classes in the Division of Continuing Education & Community Services are held evenings, Monday through Thursday; some classes may be scheduled on the weekend. The fall and spring schedule of classes corresponds roughly to the college's academic calendar. Recognized holidays are observed. Classes are also scheduled during the summer.

Steps to Matriculation: Students who apply for admission to degree status (matriculation) should take the following steps:

1. Obtain and complete the application form for matriculation to degree status available in the Continuing Education Office and in the Registrar's Office
2. Submit a high school diploma or equivalency certificate
3. Submit transcripts of schools and colleges previously attended.

Transfer Credit: Courses taken at another college may be applied to your Northern Essex record. CLEP (College Level Examination Program) credits may be added as well as Credit for Life Learning. Advanced placement is possible in Nursing for practical nurses, and in other programs for students with appropriate career experience. See a Division of Continuing Education & Community Services counselor for advice on transfer credit.

Summer Session

The Division of Continuing Education & Community Services administers the college's summer session. Northern Essex students may take courses to shorten the length of their total programs. Students from other colleges may take courses. Summer session is an opportunity to adjust a poor course grade or take specific courses needed for transfer. Students may take courses to qualify for later admission to Northern Essex and high school students may take courses to get an early start on their college careers.

Summer session registration procedures are the same as those for other semesters. It is not necessary to apply officially for a degree program in order to take classes. Registration dates for summer are announced prior to the beginning of classes in a summer session brochure currently distributed to all homes in the Merrimack Valley and southern New Hampshire. Registration is completed when the registration form is returned to the college and all fees are paid.



SPECIALIZED STUDY OPPORTUNITIES

Prep Study

Some applicants may lack the educational background or certain skills necessary to pursue some courses required in their degree program. Upon acceptance to their degree program, these students may be required to take prerequisite courses in preparation for courses required later in their degree program.

Prep Study enables students to begin their degree program and to obtain the necessary educational background or skills. Most, if not all, of the Prep Study courses will be fully applicable to the student's degree program.

E.S.L.

Some applicants to Northern Essex Community College lack the proficiency in academic English judged necessary to be successful in college-level work. Upon acceptance into a degree program, a student may be required to increase his or her general fluency in educated American English.

All incoming students with a native language other than English are required to present the college with a minimum TOEFL Test score of 500, including a minimum of 50 in the Listening Comprehension section. (TOEFL: Test of English as a Foreign Language, Educational Testing Service, Box 899, Princeton, NJ 08451.) Students who do not present a TOEFL test score are required to take the Northern Essex Community College ESL Placement Test.

The ESL course sequence consists of five levels with emphasis on sentence structure, grammar and communication skills (including listening comprehension, reading comprehension, oral expression and written expression). The first three ESL levels are non-credit, remedial courses. These levels are primarily for students who must increase their proficiency rapidly through concentrated study. Each of these levels consists of 400 hours of instruction given over a period of sixteen weeks.

The two upper level three-credit ESL courses meet seven hours per week each. At these levels, students are advised to take no more than six additional credits of study each semester in their degree programs. **Note:** Credit for Life Learning is not offered by the college for any ESL course.

G.E.D.

Working in conjunction with the Division of Instructional Development, the Division of Continuing Education & Community Services offers the General Educational Development (G.E.D.) preparation course and testing program. Northern Essex is an official G.E.D. testing center and many hundreds of area citizens have qualified for high school equivalency diplomas at the college.

The broadly based G.E.D. preparation course reaches out to locate people who need a high school equivalency diploma, motivates them to prepare for a G.E.D. test, suits the preparation material to the needs of the individual and provides extensive personal and employment counseling.

Cooperative Education

Cooperative Education provides students with full-time or part-time jobs related to their academic programs and/or career objectives. Cooperative Education courses are founded on the philosophy that you learn more effectively when you learn by doing through integrating classroom instruction with practical, supervised on-the-job experience. Students are usually paid for the work performed while participating in Cooperative Education.

Students interested in Cooperative Education are referred to the Office of Cooperative Education & Placement where they make application and are interviewed by a member of the co-op staff. Co-op students must participate in at least one of the following workshops: Career Development, Resume Writing, Interview Techniques or a topic to be added later. An appropriate job is secured by the student (it is suggested that students not register for a Co-op course before getting an approved job). Once employed in a co-op job, a student must develop a training agreement listing objectives to be accomplished in the course during the semester. The work-site supervisor assumes the role of adjunct instructor, using the employing organization as a learning laboratory. Coordinators from the college will visit the work-site during the semester and will receive help from the work-site supervisor in the evaluation of the students progress.

Generally, students may use credit earned in Cooperative Education to replace an elective within their field of study. Electives outside the major are generally not substituted by co-op. However, it is the Academic Department that determines whether or not co-op credit may be used for graduation. Before registering for Cooperative Education, students should check with their academic advisor or the faculty Cooperative Education Advisor from the appropriate academic division of the college.

International Studies

Under the umbrella of the International Studies Program, students may register in selected N.E.C.C. courses which integrate an international, intercultural perspective in the course work. In addition, by cross-registering at a NECCUM consortium college, a broader and more specialized course of studies may be undertaken.

Academic overseas study is another option available to N.E.C.C. students. Semester or year-long overseas academic programs are available in a number of countries, including England, Ireland, Germany, Italy, Mexico and Sweden.

Finally, for those who cannot engage in an extended overseas stay, selected short travel-study programs (credit or non-credit) are available during December-January and summer weeks for students and the community.

For further information, contact Usha Sellers, Director of International Studies at (617) 374-0721, extension 294.

High School Seniors

Students who have not yet graduated from high school may take courses at Northern Essex for credit (on a full-time or part-time basis) as participants in the College Experience for High School Seniors or the Advantage programs. For more information, contact the Office of Admissions at (617) 374-0721, extension 240.

Lawrence Education Employment Program

The Lawrence Education Employment Project (LEEP) opened its doors in January 1985, and has perhaps been the most effective outreach effort to the minority community that the college has ever made.

This vital and highly successful project operates with the support of the Legislature of the State of Massachusetts and the Commonwealth's Board of Regents of Higher Education to meet the educational and employment needs of those individuals who have encountered barriers to employment and self-sufficiency because of a lack of education, work skills or both. LEEP primarily seeks to assist Hispanics and the socio-economically disadvantaged residents of the City of Lawrence. Components include assessment, prevocational basic skills, English as a second language, GCA math skills program, employment workshops on cultural orientation to life and work, and business liaisons. Additional components

scheduled for implementation starting in the summer of 1985 include "practical English" and electronics training. Support services include academic and personal counseling, job placement, and efforts to resolve child care and transportation problems.

NECCUM Cross-Registration

Students enrolled at Northern Essex Community College may cross-register at any of the other educational institutions which form the Northeast Consortium of Colleges and Universities in Massachusetts (NECCUM). NECCUM members are Bradford College, Endicott College, Gordon College, Marian Court College, Merrimack College, Middlesex Community College, Montserrat School of Visual Art, Northern Essex Community College, North Shore Community College, Salem State College and the University of Lowell.

Students enrolled as full-time Day Division students at N.E.C.C., with a grade point average of 2.0 or above, may take up to two courses a semester at any NECCUM college on a seat-available basis. First semester freshmen are excluded except for students enrolled in ROTC. Tuition is free with the exception of lab fees and fees for specialized courses. Forms and additional information on NECCUM cross-registration are available in the Registrar's Office.

Air Force ROTC Program

Through a crosstown agreement with the University of Lowell, students may participate in the Air Force Reserve Officer Training Corps (AFROTC). Registration for AFROTC is the same as registration for most other college courses. ROTC class schedules and additional information may be obtained by calling Air Force ROTC, Detachment 345 at the University of Lowell (617) 459-9301.

ACADEMIC STANDARDS

Academic Regulations

Academic standards have been established at Northern Essex Community College to help students attain understanding, competence and excellence. Standards apply to all students enrolled in both the Day Division and the Division of Continuing Education and Community Services except as noted below and in the section of this catalog entitled Division of Continuing Education & Community Services.

Matriculated Status

Once students have matriculated - been accepted by the college into one of its associate degree or certificate programs of study - they must maintain a prescribed academic standing in order to continue, from one semester to another. Matriculation must occur in order to be graduated in one of N.E.C.C.'s programs of study.

Academic regulations are applied in both the Day Division and the Division of Continuing Education & Community Services, with the following exceptions:

1. Students who have matriculated through the Division of Continuing Education & Community Services may continue their studies towards a degree or certificate even though they may not enroll in consecutive semesters.

2. The regulation pertaining to academic suspensions is managed differently for students who have matriculated in the Division of Continuing Education & Community Services. Such students are normally not suspended; however, they may lose their matriculated status (which may result in loss of financial aid or veterans' benefits) or be put on a probationary status.

3. Drop/add time periods for short term, accelerated, or extended courses may differ from the traditional semester time periods. However, posted time periods are equivalent.

Policies and procedures relating to academic standards in the college are handled by various administrative and student support service areas. General inquiries from Day Division students should be directed to the office of the Dean of Student Services, and those from students in the Division of Continuing Education & Community Services to that division's office. Specific contact references are named as appropriate in the material which follows.

Academic Ethics and Plagiarism

The college expects all students to maintain high standards of academic honesty and integrity. Plagiarism is clearly an example of a violation of Academic Ethics and is a major offense.

Plagiarism is defined by the college to be the use of any other person's work or ideas as though the work or ideas were your own, without giving the appropriate credit.

Instructors are required to provide students with a clear written definition of plagiarism applicable in their discipline as part of their course syllabus, which they provide students during the first two weeks of each course.

Students are responsible for understanding what plagiarism is in each of their classes. The college's definition and that of your instructor will be used as a criterion against which all plagiarism allegations will be judged. Instances of plagiarism will be dealt with first by the instructor who discovers, or is made aware of, the incident. Instructors must discuss the evidence of plagiarism with the student prior to taking action. Instructors who take action as a result of a plagiarism incident may report such action to the Dean of Student Services. There shall be a range of penalties at the discretion of the instructor which may extend to a recommendation to the Dean of Student Services for expulsion from the college. The Dean of Student Services may take disciplinary action against students who are reported for plagiarism.

Students have a right to file a grievance if they feel that the action taken in the alleged plagiarism case discriminated or abrogated their individual or student rights. Students can contact the Dean of Student Services for detailed information regarding Massachusetts Board of Regents of Higher Education Student Grievance Procedures.

Second and Dual Degree Status

Students may seek a second degree by reapplying for admission into a new program after they have received their first degree.

If a student applies for a second degree, only those courses taken in the first degree that are applicable towards the second degree will receive credit. Only those courses completed during the second degree will be computed for the QPA. In addition, to qualify for a second degree a student must:

1. Meet all specific degree requirements of the program for which a second degree will be granted.

2. Complete the specific courses, as identified and approved by the appropriate individual or committee at the institutional level, needed to complete the second degree. This information will be made available to the college community.

3-a. Complete a minimum of 15 credit hours beyond a first associate degree to receive a second associate degree.

3-b. Complete a minimum of 9 credit hours beyond the first degree to receive a certificate.

Students may pursue dual degrees by entering a course of study that will allow them to earn two degrees simultaneously with the exception that a student will not be awarded an associate degree and a certificate in the same subject matter simultaneously. Criteria stated above that qualify a student for a second degree are also applicable to dual degrees. Contact the Admissions Office if you are reapplying for a second degree, and the Registrar's office if you wish to declare a dual degree status.

The Curriculum Plan

The plan for each associate degree or certificate program of studies indicates all or some of the following:

1. Specific courses, by number and title, which must be completed and the sequence in which they must be completed.
2. Required types of courses, such as science, mathematics, humanities, social sciences, etc., which must be completed.
3. Elective opportunities (not otherwise limited by specific program requirements) where any course or courses can be chosen as long as the required number of credits to earn the degree is satisfied.

Each curriculum plan is organized and scheduled so that a student who enters in the Day Division in the fall semester can complete the program in two semesters for a certificate and four semesters for an associate degree. In some programs, such as Liberal Arts, Business Transfer and a few others, the curriculum plan can be completed in four semesters for those who enter in January. Students are reminded that a minimum of 24 credit hours of work, and the final year of work, must be completed at Northern Essex in order for a student to qualify for an associate degree. Any student in a one-year certificate program must earn at least 12 credits in classroom activity. In most instances, the time needed to complete the requirements in the Division of Continuing Education & Community Services is about twice that of the Day Division.

In order to meet the requirements in four semesters, a student must complete an average of at least 15 credit hours each semester. This pace involves a course load which, for a variety of reasons, is too heavy for many students. Therefore, many students take five and six semesters to complete their requirements. The college, therefore, defines a full time students as one who is carrying 12 credit hours in one semester.

Students, in consultation with advisors, select courses and create their schedule during registration. If they are not able to take the courses in the order in which they are listed in the curriculum plan, they must be certain that they have fulfilled any stated prerequisites for courses which are selected out of sequence. Senior students are given priority in registration in order to assist them in being able to select the courses which they need for graduation. Students should consult the most recent college catalog or supplement and their advisor, or a counselor before finalizing any choices. Division and department chairpersons and curriculum coordinators, names of whom are available from the Registrar, may also be consulted.

Academic Residency Requirements

In order to ensure that students attain a level of competency within the course and subject area of their program and curriculum plan, the college requires that a specific number of course credits be earned in residency at the college. Because of this requirement students who are transferring in credit from another college may, in some cases, not receive transfer credit for all courses they completed at the other college.

A minimum of 24 credits for an associate degree program, and 12 credits for a certificate program, are required in order to fulfill residency requirements. In addition, students must be currently enrolled and matriculated at the time they are fulfilling their residency requirements, and be in their final year (or semester) of course work at the time they petition to graduate.

Change of Program

Qualified students who desire to change their matriculated status from one academic program to another should initiate the process by completing the appropriate form available in the Admissions office. When a student has permission to change his/her curriculum, only those courses and grades applicable to that curriculum will be computed in his/her cumulative quality point average. However, all courses taken and grades received will appear on the academic record, even though they are not computed in the QPA for the new curriculum.

Program/Course Requirements

When a course is listed as a requirement for a degree/certificate in a given curriculum and a student wishes to obtain the degree/certificate without taking such a course, a waiver may be requested.

The student will be asked to complete the appropriate waiver form available from the Registrar. Such waivers must be approved by the appropriate division chairperson and the Dean of Academic Affairs.

Course Loads

Students are responsible for knowing what courses are required in their curriculum and for meeting all other academic requirements. In order to graduate in four semesters, students must carry the number of credit hours each semester specified in their curriculum plans. Counselors and faculty are available at registration for advising.

Taking fewer courses than curriculum specifies: students are encouraged to take the number of courses they feel they can manage with good performance.

Note, however, that omitted courses or their equivalent should be taken in summer session in order to graduate in two years.

Taking more courses than curriculum specifies: students should limit themselves to the number of courses in their curriculum schedules. Students may request to take more courses in one semester than the suggested schedule if they have attained a QPA of 3.00 or higher at Northern Essex and have approval of their advisor. Final registration approval will depend on the availability of course seats.

Note: Students who enroll in more courses than the suggested schedule may be required by the Registrar to drop a course.

Course Prerequisites

If a student does not have the necessary prerequisite for a course in which he/she wishes to register, it is necessary that the student obtain permission from the chairperson/coordinator of the academic department/program which offers the course. Waiver forms, which can be obtained from the Registrar, must be completed by the

student and be approved by the appropriate department chairperson/curriculum coordinator. Approved waivers must be on file in the Registrar's office prior to the 35th day of each semester. Students will be dropped from a course if they have not met the prerequisite requirement of the course and/or have not received a waiver to take the course.

Adding a Course

A course for which a student did not register may be added to the student's schedule upon a space available basis. A student who wishes to ADD a course must complete the ADD portion of the college's DROP/ADD FORM which is available in the Registrar's office. Exact days, times and procedures for adding a course are published by the Registrar at the beginning of each Day, Evening or Summer session and are noted in the Academic Calendar.

Dropping a Course

Any student may DROP a course by completing the DROP portion of the DROP/ADD FORM and submitting it in person to the Registrar's office. Failure to drop a course officially will result in an F grade for the course. The following DROP periods are in effect at Northern Essex:

Period 1: Courses dropped officially during the first twenty academic class days of a semester are not recorded on the transcript.

Period 2: Courses dropped during the twenty-first to the forty-fifth day of a semester receive a grade of W, recorded on the transcript but not computed in the QPA.

Period 3: Courses dropped after the forty-fifth day of a semester receive a grade of FW. The FW grade, Withdrawal Failing is listed on the student's transcript.

The length of a Drop/Add period for accelerated or extended courses or sessions may vary, but are equivalent to the above mentioned policy, and posted accordingly. Exceptions to these policies may be made only by the Dean of Continuing Education or the Dean of Academic Affairs. Consult the Academic Calendar for dates relative to dropping a course. Academic Calendars are published each semester and are available at the Registrar's Office, B-219, or at the Division of Continuing Education & Community Services Office, B-204.

Note: All W-type grades carry no earned credit or quality points, but do appear on student transcripts.

Repeating a Course

Students may repeat a course. There is no limit to the number of times that such a course may be repeated. In each instance the highest grade received when repeating a course will be used to determine the QPA. The notation R appears in the transcript for any repeated course.

Any student repeating a course must complete a Repeat Course Form available in the Registrar's office.

Priority in course seating is given to those who have not previously earned a C or above in the course.

Note: Persons receiving any form of financial assistance should seek written approval from the representative of the agency providing the assistance; for example, the Veterans Affairs Office (on campus), Massachusetts Rehabilitation Counselor, etc.

Auditing a Course

Where specific program requirements do not otherwise prohibit, students may elect to enroll and attend a credit course for self-improvement or individual interest, without the responsibility of fulfilling academic assignments by auditing a course for no course credits. An audit request form, available in the Registrar's office, must be completed during the first twenty (20) days of class.

Enrollment of auditors in courses is subject to the approval of the Dean of Academic Affairs and the individual faculty member concerned. An audit grade CANNOT be changed to a regular course grade.

Directed Studies Courses

In order to provide for a unique, highly individualized course of study for a single student, or a relatively small number of students, each academic department/program in the college offers Directed Studies courses. Such courses are designed to provide further study through directed readings, directed research projects or seminars, or special class work related to research in a specific subject. Each Directed Studies course is usually initiated in response to student interest, is limited to 5 or fewer students and should not be confused with a Special Topics course.

Special Topics Courses

A Special Topics course may be offered by any academic department/program with the approval of the division chairperson responsible for that area and the chairperson of the Curriculum Committee. The division chairperson, at the time he/she signs the approval form, shall forward an informational copy of the Special Topics course to the Dean of Student Services.

Special Topics courses are normally initiated by faculty or division chairpersons and are created for more than five (5) students. Special Topics courses are regular semester college courses and may be from one to four credits. Classes will meet on a regular schedule.

Dates for submission of Special Topics proposals will follow the time schedule established by the Office of the Dean of Academic Affairs. Approval for Special Topics courses may be granted twice by the chairperson of the Curriculum Committee. When a Special Topics course has been given twice, a formal course proposal should be submitted to the Curriculum Committee for its formal adoption and approval. A Special Topics form submitted simultaneously with the formal course proposal will be approved to cover the course until the Curriculum Committee, Executive Committee and President have acted.

Courses Taken at Another College While Enrolled at N.E.C.C.

The educational design for each curriculum at Northern Essex is based on the premise that students will fulfill the requirements for a degree/certificate from courses at this college, once they have been accepted into a program. However, when a student lacks one or two courses for completing requirements at Northern Essex and problems of distance, course availability or class time make it very difficult to take the courses at this college, the student may request permission to take a course at another college. Grades given for courses transferred from another college are not computed in the QPA average at Northern Essex.

This alternative will be approved by the Registrar only in hardship situations and is subject to the following stipulations:

1. The student must complete a minimum of twenty-four (24) credit hours and the final year of course work at Northern Essex Community College to qualify for a degree.

2. The student in a one-year certificate program must earn at least twelve (12) credits in classroom activity at Northern Essex Community College.
3. All conditions prescribed in the student's curriculum plan are being met.
4. The student provides this college with a detailed course description of the course.
5. Written approval is received from the Registrar by the student before taking the course at another college.
6. A grade of C or better is earned in the course.

Note: The college does not automatically approve courses to be taken at another college. Request forms and additional information are available in the Registrar's office.

Academic Standing

A student's academic standing indicates progress towards a degree. A minimum over-all average grade is required to continue from one semester to another. There are three categories of academic standing. These are described below.

Good Standing:

Good standing is defined as follows:

- A QPA of 1.50 after attempting one to nineteen credit hours
- A QPA of 1.75 after attempting twenty to thirty-six credit hours
- A QPA of 1.90 after attempting thirty-seven to fifty-four credit hours
- A QPA of 2.00 after attempting fifty-five or more credit hours.

Probation:

Probation is a warning that a student must show academic improvement in order to maintain enrollment within a program. Probation is a written warning from the Dean of Student Services. This letter states that students on probation must consult with a counselor or their faculty advisor and plan a course of studies to improve grades. Upon attaining grades of good standing, probationary status is removed. Probation status is defined as follows:

- A QPA below 1.50 after attempting one to nineteen credit hours
- A QPA below 1.75 after attempting twenty to thirty-six credit hours
- A QPA below 1.90 after attempting thirty-seven to fifty-four credit hours
- A QPA below 2.00 after attempting fifty-five or more credit hours.

Suspension:

Suspension automatically drops a student from the college rolls and denies the student's eligibility to return in the following semester. Suspended students are informed in writing by the Dean of Student Services. Academic Suspension is assigned as follows:

- A QPA less than 1.00 after attempting one to nineteen credit hours
- A QPA less than 1.50 after attempting twenty to thirty-six credit hours
- A QPA less than 1.75 after completing thirty-seven to fifty-four credit hours
- A QPA below 1.90 after attempting fifty-five or more credit hours; but less than nine credit hours beyond the total required in the student's curriculum

A QPA below 2.00 after attempting nine credit hours beyond the total required in the student's curriculum.

Students under suspension from the Division of Continuing Education and Community Services are suspended from degree status, but may continue to take courses in the division and apply for re-admission to degree status by raising their QPA's.

Note: Suspended students may lose their eligibility to receive veterans' benefits or financial aid until they have returned to a matriculated, good standing status.

Removal From Suspension

Students who are suspended may raise their QPA and qualify for removal from suspension in two general ways:

1. By satisfactorily repeating failed courses at N.E.C.C. which automatically raises a QPA
2. By satisfactorily completing courses taken during the evening or summer sessions of the Division of Continuing Education and Community Services.

Additional information on how to be removed from suspension can be obtained from the Division of Continuing Education office, the Dean of Student Services or a college counselor.

Grading System

All grading is done according to a system in which a letter represents the quality of the work done by a student; i.e., A represents excellent work, etc. Grades are distributed at the end of each semester by mail.

Each student has a Quality Point Average (QPA) which is determined by dividing the number of credit hours attempted into the number of quality points earned. In order to accomplish this each letter grade is given a numerical value on a scale of 0 - 4. These are called Quality Points. The numerical values assigned are:

Grade	QP Value	Numeric Range/Comment
A	4.00	93-100
A-	3.70	90-92
B+	3.30	87-89
B	3.00	83-86
B-	2.70	80-82
C+	2.30	77-79
C	2.00	73-76
C-	1.70	70-72
D+	1.30	67-69
D	1.00	60-66
F	0.00	59 or less; failure; no credit earned
F/NP	0.00	Failure due to nonparticipation
P	0.00	Pass; credit earned
NC	0.00	No credit earned
I	0.00	Incomplete
W	0.00	Withdrawal from course
NW	0.00	Withdrawal via non-participation
WF	0.00	Withdrawn failure
WP	0.00	Withdrawn passing
NG	0.00	No grade submitted by instructor
AU	0.00	Audit; no credits earned

QPA Computation Example:

English Composition I	A	4 × 3	=	12
Civil Rights and Liberties	P	0 × 0	=	0
Introductory French	C	2 × 3	=	6
Zoology	A	4 × 4	=	16
Introduction to Outdoor Education	B	3 × 3	=	9
Statistics	D	1 × 3	=	3
		16*		46**

*Credits

**Quality Points

A total of 16 credits divided into a total of 46 quality points earned equals a 2.87 QPA for the semester.

The QPA is also cumulative. Each semester a cumulative QPA is computed by dividing the total number of credits attempted in all semesters at the college into the total number of quality points earned in all semesters at the college. (One exception to this is for those students who have transferred from one program at the college into another. In that instance, those courses which have not been applied to the new program are not considered when determining the QPA).

Attempted credit hours include credit hours with a letter grade of A, A-, B+, B, B-, C+, C, C-, D+, D, F and F/NP. Grades of P, NC, I, W, NW, WF, wP, NG and AU are not included in the attempted credit hours. When a course is repeated the higher of the two grades will be computed in the QPA; only the credit hours for the higher grade will be included in the cumulative total of attempted hours. The transcript will record each time the course has been taken. (Refer to Repeating a Course in this section of the catalog for further details.)

Incomplete Grades

Students may receive a temporary grade of Incomplete (I) from instructors when all work in a course is not satisfactorily completed and, in the judgment of the instructor, completion of the assigned tasks would allow the student to earn a passing grade in the course. If the instructor assigns an I, a Documentation of Incomplete Grades form must be completed and placed in the student's folder maintained by the Registrar. This will clearly outline the work to be completed and the time limit. An instructor may change an I to a letter grade (other than a W grade) any time after it is assigned.

Instructors may accept late course work only when, in their judgment, there are acceptable reasons to justify such a delay. If a final examination is missed because of student inaction, as opposed to a cancellation of class or instructor inaction, the instructor may allow a make-up if, in the judgment of the instructor, successful completion of the final examination could earn the student a passing grade.

If, for any reason, the instructor has left Northern Essex permanently or for an extended period of time and is unavailable, the division chairperson has the authority to change the grade using the Grade Change Form. The division chairperson's decision is based upon a waiver of any existing documentation of the Incomplete. If documentation of expected work is not available, the division chairperson may use his/her professional judgment to determine work to be completed and the final grade.

Incomplete grades are temporarily not computed in determining the semester and cumulative QPA. Incomplete grades (I) are automatically converted to F (Failure; no credit earned) grades at the end of the next semester, and are computed as F grades in the students semester and cumulative QPA. The student is expected to take the initiative in seeking to complete course work necessary to change an INC to another grade. An I cannot be changed to a W, NW, WP or WF grade by the instructor.

Pass/No Credit Grade Option - Liberal Arts Program

A student enrolled in the Liberal Arts Program who has successfully earned 12 credits or more, may elect to enroll in a course under the Pass/No Credit grade option. The following criteria apply to the NC (No credit earned) grade option:

1. Courses taken on a Pass/No Credit basis may be used to fulfill the **elective** requirements only of the Liberal Arts degree. All **specific** course requirements must be taken for a letter grade.
2. At **no time** may a grade for a course taken on a Pass/No Credit basis be converted to a letter grade.
3. All credits earned for courses taken as Pass/No Credit will count towards the total credit hours required for a Liberal Arts degree, but will not be calculated into the student's quality point average.
4. No more than 12 credit hours of Pass/No Credit courses may be applied toward the student's degree and no more than one course may be taken on this basis in any one semester.
5. Some colleges may not permit the student to use courses taken as Pass/No Credit for transfer purposes. Responsibility for seeking information regarding the transferability of Pass/No Credit courses lies with the student (see 2. above).
6. The Pass/No Credit Grade Option form must be **completed** and **submitted** to the Registrar no later than the **sixth** academic day of the semester in which the course is taken.

Approval from the course instructor is not necessary for the Pass/No Credit option. The instructor is, however, notified of your Pass/No Credit option. The Registrar may approve late applications for the Pass/No Credit option, but in no cases will requests for a Pass/No Credit option be approved after the fifteenth academic day of a semester. Pass/No Credit Grade Option forms are available only in the Registrar's office.

Changing Grades

To alter the final grade of a student, instructors must complete a Change of Grade form which contains the following information:

1. Name of student; social security number
2. Title of course, section number, semester earned
3. Grade originally reported, new grade
4. Brief but comprehensive statement of reason for making change; e.g., clerical error, error in computing the grade.

Change of Grade forms are available in the Registrar's office. Instructors must submit forms in person.

Mid-Semester Grades

No mid-semester grades are issued at Northern Essex. All students, however, have the right to require written evaluations from their instructors at any time during the semester.

The Registrar's office has a mid-semester grade form available for students who wish to submit them to their instructors.

Student Academic Transcripts

The Registrar's Office maintains permanent transcripts for all students who earn academic credit at the college. If the student successfully completes a program of study at Northern Essex Community College, the name of the degree or certificate earned will be noted on

the transcript. Transcripts are also kept for students who earn Continuing Education Units (CEU's).

Transcripts may be reviewed by students upon request, in person or in writing. Students must present an acceptable form of identification, such as a driver's license, college I.D. card, social security card, etc. Transcripts will be released to other parties only if written authorization from the student has been received. Any written request for (or release of) a transcript must contain the student's name, address, date of birth, social security number, and dates of attendance. Students will receive one free transcript at the end of each semester, which is mailed to them. Additional transcripts cost \$1.00 each.

All courses taken at Northern Essex Community College are recorded as a single permanent record. Academic credits earned for courses completed either through the Day Division or the Division of Continuing Education & Community Services may be applied to fulfill program and degree requirements. Additional information about transcripts and permanent records is outlined as appropriate throughout this section of the catalog.

Honors

Each semester students are appointed to the Dean's List for Academic Honors if they fulfill the following requirements:

1. They are candidates for a degree
2. They are carrying 12 or more credit hours within the semester
3. They attain a quality point average of 3.00 or higher within the semester.

Graduation Requirements

Northern Essex Community College awards Associate Degrees in Arts and Sciences, and Certificates to all qualified students at commencement exercises for each class. In order to receive this award, students must meet the following criteria:

1. Completion of all required courses in a curriculum with a passing letter grade, or with the minimum letter grade specified for that course.
2. Completion of the number of credit hours prescribed by a particular curriculum.
3. Completion of final year of course work and a minimum of 24 credit hours of course work at N.E.C.C. in order to qualify for a degree, and a minimum of 12 credits in classroom work to qualify for a certificate.
4. Attainment of a cumulative quality point average (QPA) of 2.00 or higher.
5. Completion of the petition for graduation prior to deadline date as prescribed in the Academic Calendar.
6. Payment of all financial obligations at the college.

High honors are awarded during commencement to all students with a cumulative quality point average of 3.50 or higher. Honors are awarded during commencement to all students with a cumulative quality point average from 3.00 to 3.49 inclusive.

Attendance and Non-Participation

Students are expected to attend each meeting of each class in which they are enrolled. The class instructor has full and final authority to decide whether a student is permitted to make up work missed through absence, and on what terms. Students should ask each of their instructors about their respective attendance policies.

Faculty have the academic authority to remove students from their class for non-attendance or non-participation. A non-participating (NP) student is one who, because of absences, missed quizzes, tests or papers, or inappropriate classroom behavior has fallen

behind the work of the class to such a degree that the instructor feels the student is not likely to attain a passing grade. In most cases, circumstances would indicate to the teacher that the student has dropped the course but neglected to drop it officially.

When students are removed from a class due to non-participation (NP), a grade of NW (Withdrawal via non-participation) or F/NP (Failure due to nonparticipation) will be assigned and recorded on their transcripts. Students who are NP'd will receive a letter from the Registrar along with instructions on reinstatement procedures.

Withdrawing from College

Any DAY DIVISION student who wishes to withdraw from the college must complete a WITHDRAWAL FORM which can be obtained in the Registrar's office. If a student leaves the college without completing a withdrawal form, the transcript will record a WF grade for each course. The following withdrawal from the college periods are in effect at Northern Essex:

1. Between day one and day forty-five, an automatic W grade is assigned and appropriate withdrawal from college notation made to the student academic record.
2. Between day forty-six and end of the semester, the student must have an exit interview with each of his/her instructors and be assigned a WP or WF withdrawal grade by the instructor. Failure to have an exit interview and complete a Withdrawal From the College form will result in the student automatically receiving WF grades. The grade received will appear on the student's academic record.

A faculty member may formally request that a retroactive W grade be issued to a student who withdraws from college during the WF period for a course currently in progress. The faculty member must receive approval from his/her Division chairperson and the Dean of Academic Affairs. The Dean of Academic Affairs will then forward the approval (if granted) to the Registrar for implementation.

Note: If you withdraw from college you will not be eligible to register for courses during the up-coming semester. You must reapply for admission and will receive instructions on how to register after you have been readmitted.

Students in the Division of Continuing Education & Community Services do not have to withdraw from the college if they discontinue their studies.

Retroactive Course Withdrawals

The Dean of Academic Affairs is responsible for approving any retroactive course drops in a prior semester and any retroactive withdrawal from college which affects an earned letter grade A through F.

In order to apply for a retroactive course drop or withdrawal, students must complete a Retroactive Withdrawal Petition available in the Registrar's Office. The Registrar will review the request, prepare supporting documentation if appropriate, and forward the petition to the Dean of Academic Affairs for consideration. If approved, the action will result in a W grade appearing on the transcript for the course(s) in the prior semester, with W grade(s) dated as of the forty-fifth academic class day of that semester.



ACADEMIC STRUCTURE

Under the leadership of the Dean of Academic Affairs, programs of study at Northern Essex Community College are offered through the cooperative efforts of six academic divisions, each one directed by a division chairperson. The divisions are dedicated to academic excellence, diversity, and growth and development.

Five divisions administer the associate degree and certificate programs of study offered at Northern Essex: the Division of Business chaired by Olga Williams; the Division of Humanities & Communication chaired by Chester Hawrylcw; the Division of Human Services & Health Professions chaired by Paul Bevilacqua; the Division of Mathematics, Science & Technology chaired by Corinne Grise and the Division of Social Sciences chaired by Usha Sellers.

The sixth academic division, the Division of Instructional Development chaired by David Kelley, is a multi-purpose, service oriented division which assists students to assess and improve academic skills.

ASSOCIATE DEGREE PROGRAMS CERTIFICATE PROGRAMS

Transfer Programs

The programs of study at Northern Essex formatted specifically for the student who plans to transfer to a four-year college or university after graduation are Liberal Arts, Business Education, Business Transfer and Engineering Science. These programs are parallel to the first two years of similar programs in most public and private senior colleges throughout the country, and provide a solid basis for transfer with advanced standing.

Career Programs

The intent of career programs at Northern Essex is to provide the theory and technical or professional skills students need to qualify for jobs immediately after graduation. Career programs are offered in the arts, business, technological fields, office and business education, the human services and the health professions. Many of these programs have built-in practicum experiences; others may be supplemented with cooperative education courses for valuable on-the-job training.

Career Program Transfer

Although career program courses are not specifically designed for transfer to a senior institution, they do have transfer potential. Many Northern Essex students in career programs have been accepted in senior colleges related to their career fields.

Program Formats

The following associate degree and certificate program formats indicate the recommended (and in some cases required) sequence of courses which will lead to completion of associate degree programs in four academic semesters and completion of certificate programs in the number of semesters specified in individual program formats.

ACCOUNTING

The associate in science degree program in Accounting provides a basic core of business courses which introduces students to a broad variety of areas within the field of business and prepares them to select that particular phase of specialization which best suits their needs, abilities and interests. The Accounting specialization is designed to prepare students to enter business, industry or government in the specific field of accounting. The demand for trained accountants has increased substantially with the growth and complexity of business and government. Employment projections have typically indicated that accountants are among those who are in high demand and well paid. Many of the courses in the curriculum may be transferred to a four-year college of business administration. 64 credit hours of work are required for graduation.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
EN4401	English Composition I	3	EN4402	English Composition II	3
AC6601	Introductory Accounting I	4	AC6602	Introductory Accounting II	4
	Mathematics (see Math Chart)	3		Mathematics (see Math Chart)	3
MK6678	Principles of Marketing	3	EN8011	Speech	3
SO3321	Introduction to Sociology OR		PS1101	Introduction to Psychology OR	
PS1101	Introduction to Psychology	3	SO3321	Introduction to Sociology	3
		16			16
THIRD SEMESTER		CREDITS	FOURTH SEMESTER		CREDITS
FI3652	Business Finance	3	EC3652	Survey of Economics**	3
LW6651	Business Law I	3	MG6666	Principles of Management	3
AC6651	Intermediate Accounting I	4	AC6652	Intermediate Accounting II	4
AC6671	Cost Accounting	3	AC6682	Tax Accounting	3
SC5011	Energy, Environment & Future*	3		Elective	3
		16			16

*Another science course may be elected in place of this requirement.

**EC3322 Micro Economics or EC3323 Macro Economics may be substituted.

ALCOHOL/DRUG ABUSE COUNSELING

The one-year certificate program in Alcohol/Drug Abuse Counseling is designed to provide the opportunity for students to learn the theory and develop the skills needed to assist clients toward recovery from their alcohol/drug abuse problem. Special consideration will be given to current modalities of treatment and ethical issues involved in direct care services. Carefully supervised clinical experiences in alcohol/drug abuse services are an integral part of the program and prepare students for positions as counselors in alcohol and drug abuse. 24 credit hours of work are required for the certificate.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
MH2111	Introduction to Mental Health	3	MH2171	Counseling Techniques with	
MH2133	Observation and Recording of			Drug Abusers	3
	Mental Health Programs	1	MH2169	Mental Health Practicum II in	
MH2170	Alcohol and Drug Abuse	3		Alcohol/Drug Abuse Services	4
MH2168	Mental Health Practicum I in		MH2155	Modalities of Treatment	3
	Alcohol/Drug Abuse Services	4			10
MH2147	Group Dynamics	3			
		14			

All courses with an "MH" prefix are restricted to students enrolled in the Mental Health Technology, Community Residence Manager or Alcohol/Drug Abuse Counseling programs.

BANKING

The associate in science degree program in Banking (currently offered in the Division of Continuing Education & Community Services only) has been developed by the college in conjunction with the Educational Committee of the Merrimack Valley Chapter, American Institute of Banking (AIB). This program is designed primarily for those presently employed in banking. The courses parallel those offered by the AIB, and students are able to work towards AIB certification as they complete associate degree requirements. The program provides the student with a broad academic background and the fundamentals of banking and business management skills. 62 credit hours of work are required for graduation.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
EN4401	English Composition I	3	EN4402	English Composition II	3
AC6601	Introductory Accounting I	4	PS1101	Introduction to Psychology OR	
MA5613	Mathematics of Finance	3	SO3321	Introduction to Sociology	3
EC3652	Survey of Economics	3	EN8011	Speech	3
BK6601	Principles of Banking OR		BK6611	Money and Banking	3
BK6602	Savings & Time Deposit Banking	3	AC6602	Introductory Accounting II	4
		16			16
THIRD SEMESTER		CREDITS	FOURTH SEMESTER		CREDITS
W6651	Business Law I	3	LW6652	Business Law II	3
MG6666	Principles of Management	3	BK6612	Bank Management	3
	Banking Elective*	3		Banking Elective*	3
	Banking Elective*	3		Liberal Arts Elective	3
	Liberal Arts Elective	3		Liberal Arts Elective	3
		15			15

*BANKING ELECTIVES: BK6602 Savings & Time Deposit Banking, BK6621 Corporate Banking, BK6622 Real Estate Finance, BK6623 Consumer Lending, BK6651 Analyzing Financial Statements, BK6653 Marketing for Bankers, BK6655 Negotiable Instruments.

BANKING STUDIES

The certificate program in Banking Studies (currently offered in the Division of Continuing Education & Community Services only) has been developed by the college in conjunction with the Merrimack Valley Chapter, American Institute of Banking (AIB). The program is designed primarily for those presently employed in banking and is intended for students who wish to complete specialized courses in banking in a short period of time. All courses in the certificate program in Banking Studies may be transferred into the associate degree program in Banking. 27 credit hours of work are required for the certificate.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
BK6601	Principles of Banking	3	BK6612	Bank Management	3
BK6623	Consumer Lending	3	BK6621	Corporate Banking	3
BK6622	Real Estate Finance	3	BK6655	Negotiable Instruments	3
BK6611	Money and Banking	3	BK6653	Marketing for Bankers	3
		12		Liberal Arts Elective	3
					15

BUSINESS EDUCATION

The associate in science degree program in Business Education provides the student with the opportunity to acquire not only high-level business and secretarial skills, but the possibility of transferring to a four-year program at a senior institution. Students may transfer the courses listed towards a Bachelor of Business Education degree in order to prepare for a career as a teacher of business subjects, or towards a Bachelor of Office Administration degree in order to prepare for excellent supervisory or management positions in the business world. 62 or 63 credit hours of work are required for graduation.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
EN4401	English Composition I	3	EN4402	English Composition II	3
	Business Elective	3		Shorthand*	3
	Shorthand*	3		Typewriting II, III or IV**	3
	Typewriting I, II or III**	3	PS1101	Introduction to Psychology	3
HI9901	Western Civilization I	3	HI9902	Western Civilization II	3
		15			15
THIRD SEMESTER		CREDITS	FOURTH SEMESTER		CREDITS
	Shorthand* OR			Shorthand* OR	
	Secretarial Science Elective***	3		Secretarial Science Elective***	3
SL6661	Office Administration I	3	SL6665	Essentials of Office Management	3
	Natural Science Elective	3/4	AC6602	Introductory Accounting II	4
AC6601	Introductory Accounting I	4		Speech or Literature	3
	Typewriting III OR			Liberal Arts Elective	3
	Secretarial Science Elective***				16
		16/17			

*Refer to Executive Secretarial curriculum for Shorthand Chart.

**Choose appropriate course after consultation with departmental advisor.

***Secretarial Science Electives are listed with the Executive Secretarial curriculum.

BUSINESS MANAGEMENT

The associate in science degree program in Business Management provides a basic core of business courses which introduces students to a variety of areas within the field of business. Specific requirements in Business Law, Business Finance, Economics and Principles of Management give students the knowledge and background to make positive contributions in those positions in the business world for which they may be preparing. A wide choice of business management electives allows students maximum flexibility in choosing their programs of study. This program may be preferred by those not wishing to decide upon a specific concentration after completing the first year core program, or by those planning to transfer to a four-year college who want the flexibility of choosing specific business electives for a particular institution. 62 credit hours of work are required for graduation.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
EN4401	English Composition I	3	EN4402	English Composition II	3
AC6601	Introductory Accounting I	4	AC6602	Introductory Accounting II	4
	Mathematics (see Math Chart)	3		Mathematics (see Math Chart)	3
MK6678	Principles of Marketing	3	EN8011	Speech	3
SO3321	Introduction to Sociology OR		PS1101	Introduction to Psychology OR	
PS1101	Introduction to Psychology	3	SO3321	Introduction to Sociology	3
		16			16

THIRD SEMESTER		CREDITS	FOURTH SEMESTER		CREDITS
B3652	Business Finance	3	EC3652	Survey of Economics**	3
W6651	Business Law I	3	MG6666	Principles of Management	3
	Business Elective*	3		Business Elective*	3
	Business Elective*	3		Business Elective*	3
	Elective	3	SC5011	Energy/Environm't & Future***	3
		15			15

*Business Management Electives available in the Day Division and the Division of Continuing Education & Community Services: AC6651 Intermediate Accounting I, AC6652 Intermediate Accounting II, MK6650 Retailing, MK6679 Advertising, MK6681 Salesmanship, AC6682 Tax Accounting, AC6671 Cost Accounting, LW6652 Business Law II, FI6651 Principles of Insurance, FI6663 Principles of Real Estate, CT6633 Introduction to Data Processing with BASIC, CO4401 Cooperative Education I, EC3322 Micro Economics, EC3323 Macro Economics, MG6676 Personnel Management, MG6690 Introduction to Management Information Systems, MK6682 Case Studies in Marketing.

Business Management electives available in the Division of Continuing Education & Community Services only: MG6651 Industrial Management, MG6653 Industrial Purchasing, MG6686 Small Business Management, MG6688 Travel and Tourism Management and all courses in the Banking and Materials Management programs.

Specific courses in the Office Administration program may be elected only with the expressed approval of the Department and Division chairpersons.

**EC3322 Micro Economics or EC3323 Macro Economics may be substituted.

***Another science course may be selected in place of this requirement.

BUSINESS MANAGEMENT: Data Processing Concentration

The associate in science degree program in Business Management with Data Processing Concentration provides a program of study which combines broadly based academic courses with a concentration of specific business administration courses together with a sequence of courses in the field of computer technology. Students will learn to program in several languages. Most computer courses include laboratory periods where the student receives hands-on computer time. The program is designed to provide career-oriented graduates with the computer background demanded by today's business community and the foundation necessary to appreciate the role of data processing in modern business. 67 credit hours of work are required for graduation.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
EN4401	English Composition I	3	EN4402	English Composition II	3
AC6601	Introductory Accounting I	4	AC6602	Introductory Accounting II	4
	Mathematics (see Math Chart)	3		Mathematics (see Math Chart)	3
MG6678	Principles of Marketing	3		Programming Elective*	4
CT6633	Intro. Data Processing/BASIC	4	PS1101	Introduction to Psychology OR	
W6610	Keyboarding	1	SO3321	Introduction to Sociology	3
		18			17

THIRD SEMESTER		CREDITS	FOURTH SEMESTER		CREDITS
FI3652	Business Finance	3	EC3652	Survey of Economics**	3
LW6651	Business Law I	3	MG6666	Principles of Management	3
CT6652	COBOL Programming	4	EN8011	Speech	3
	Elective	3	CT6676	Bus. Systems Analysis & Design	4
PS1101	Introduction to Psychology OR		SC5011	Energy/Environm't & Future***	3
SC3321	Introduction to Sociology	3			16
		16			

*CT6611 RPG Programming, CT6638 Advanced BASIC Programming with Applications, or other programming language recommended.

**EC3322 Micro Economics or EC3323 Macro Economics may be substituted.

***Another science may be selected in place of this requirement.

BUSINESS MANAGEMENT:

Materials Management Concentration

The associate in science degree program in Business Management with Materials Management Concentration (currently offered in the Division of Continuing Education & Community Services only) offers a program of study which includes a basic core of liberal arts and business administration courses together with a cluster of specialized courses in materials management. The program is designed for people who wish to matriculate in a field which is rapidly emerging as an interesting and lucrative professional area of specialization with expanding job opportunities, not only on the entry level, but also for those interested in supervisory and/or managerial positions. 65 credit hours of work are required for graduation.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
EN4401	English Composition I	3	EN4402	English Composition II	3
AC6601	Introductory Accounting I	4	AC6602	Introductory Accounting II	4
	Mathematics (see Math Chart)	3		Mathematics (see Math Chart)	3
MK6678	Principles of Marketing	3	EN8011	Speech	3
SO3321	Introduction to Sociology OR		PS1101	Introduction to Psychology OR	
PS1101	Introduction to Psychology	3	SO3321	Introduction to Sociology	3
		16			16

THIRD SEMESTER		CREDITS	FOURTH SEMESTER		CREDITS
FI3652	Business Finance	3	EC3652	Survey of Economics**	3
LW6651	Business Law I*	3	MG6666	Principles of Management	3
MG7701	Principles of Materials Management	3	SC5011	Energy/Environm't & Future***	3
MG7703	Capacity Management	3	MG7705	Master Planning	3
MG7706	Material Requirements Planning	3	MG7702	Production Activity Control	3
		15	MG7704	Inventory Management	3

*A specialized course in the area of materials management may be substituted for Business Law I.

**EC3322 Micro Economics or EC3323 Macro Economics may be substituted.

***Another science may be selected in place of this requirement.

BUSINESS MANAGEMENT: Real Estate Concentration

The associate in science degree program in Business Management with a concentration in Real Estate offers a program of study in liberal arts, general and specialized business courses and a sequence of courses in real estate. Graduates of the program will be prepared to take the Massachusetts Real Estate License Examination as either a salesperson or a broker. Career opportunities are prevalent in many specialized areas of the real estate field such as property management, property appraisal, commercial sales and rentals, residential sales and rentals, and personal property investment. 62 credit hours of work are required for graduation.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
EN4401	English Composition I	3	EN4402	English Composition II	3
AC6601	Introductory Accounting I	4	AC6602	Introductory Accounting II	4
	Mathematics (see Math Chart)	3		Mathematics (see Math Chart)	3
MK6678	Principles of Marketing	3	FI6663	Principles of Real Estate	3
SO3321	Introduction to Sociology OR		LW6651	Business Law I	3
PS1101	Introduction to Psychology	3			16
		16			
THIRD SEMESTER		CREDITS	FOURTH SEMESTER		CREDITS
FI6622	Real Estate Finance	3	EC3652	Survey of Economics*	3
FI3662	Business Finance	3	LW6653	Real Estate Law	3
MG6666	Principles of Management	3	FI6670	Real Estate Evaluation	3
PS1101	Introduction to Psychology OR		EN8011	Speech	3
SO3321	Introduction to Sociology	3		Elective**	3
SC5011	Energy/Environ'm't & Future***	3			15
		15			

*EC3322 Micro Economics or EC3323 Macro Economics may be substituted.

**Hands-on training component; work experience.

***Another science course may be selected in place of this requirement.

BUSINESS MANAGEMENT: Retail Concentration

The associate in science degree program in Business Management with a concentration in Retailing offers a program of study which combines broadly based academic courses with a concentration of business courses and practical experience in retailing. This program will give the student a basic understanding of marketing strategy, selling techniques and product advertising. Retailing is a specific career field which offers an ever-expanding opportunity for graduates. Many major retailing centers and merchandising marts in the geographic area served by the college provide employment opportunities for students and graduates for positions as management trainees, buyer trainees, and sales personnel in retail stores and credit offices. An integral part of the program is a 6-credit Retailing Cooperative work experience designed to give the student an opportunity to integrate theoretical classroom knowledge with practical on-the-job experience. 62 credit hours of work are required for graduation.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
EN4401	English Composition I	3	EN4402	English Composition II	3
AC6601	Introductory Accounting I	4	AC6602	Introductory Accounting II	4
	Mathematics (see Math Chart)	3		Mathematics (see Math Chart)	3
MK6678	Principles of Marketing	3	MK6680	Retailing	3
SO3321	Introduction to Sociology OR		SO3321	Introduction to Sociology OR	
PS1101	Introduction to Psychology	3	PS1101	Introduction to Psychology	3
		16			16

THIRD SEMESTER		CREDITS	FOURTH SEMESTER		CREDITS
FI3652	Business Finance	3	EC3652	Survey of Economics*	
LW6651	Business Law I	3	MG6666	Principles of Management	
MK6679	Advertising	3	MK6681	Salesmanship	
CO4401	Cooperative Education I	3	CO4402	Cooperative Education II	
EN8011	Speech	3	SC5011	Energy/Environm't & Future**	
		15			1

*EC3322 Micro Economics or EC3323 Macro Economics may be substituted.

**Another science may be selected in place of this requirement.

BUSINESS TRANSFER

The associate in science degree program in Business Transfer is designed for students planning to transfer to a four-year institution after completing the associate degree program. It provides study in basic liberal arts courses with transferable courses in business administration to provide a strong background for further study towards the bachelor's degree. 64 credit hours of work are required for graduation.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
EN4401	English Composition I	3	EN4402	English Composition II	
AC6601	Introductory Accounting I	4	AC6602	Introductory Accounting II	
	Mathematics (see Math Chart)	3		Mathematics (see Math Chart)	
MK6678	Principles of Marketing	3	EN8011	Speech	
SO3321	Introduction to Sociology OR		PS1101	Introduction to Psychology OR	
PS1101	Introduction to Psychology	3	SO3321	Introduction to Sociology	
		16			10
THIRD SEMESTER		CREDITS	FOURTH SEMESTER		CREDITS
EC3322	Micro Economics	3	EC3323	Macro Economics	
	Natural Science	4		Natural Science	
	Elective	3		Elective	
	Elective	3		Elective	
	Elective	3		Elective	
		16			10

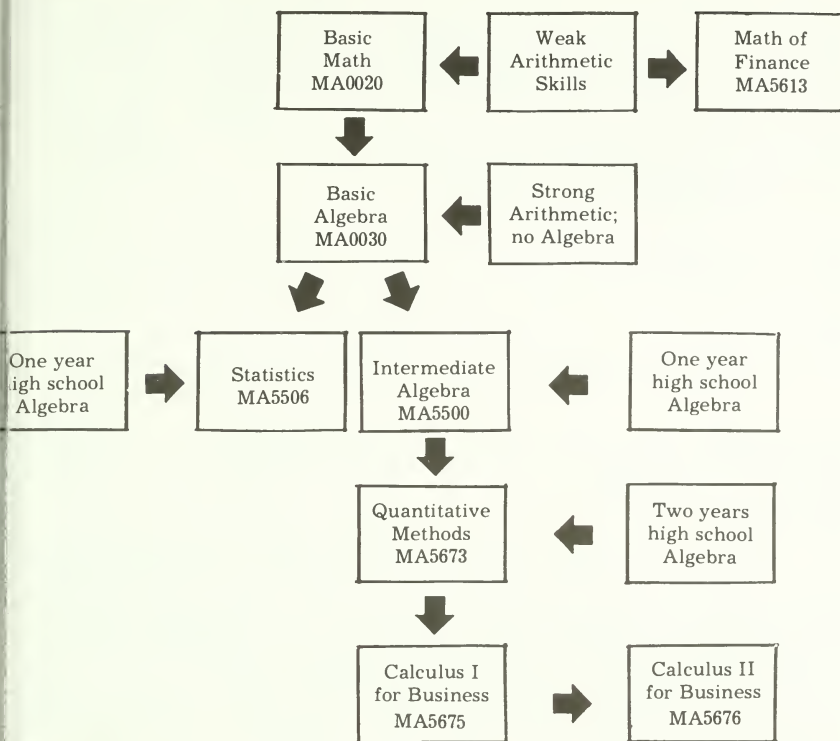
Natural Science Requirement: Two 4-credit courses in natural science are recommended. In some instances a total of nine credits in 3-credit science courses may be accepted with Divisional approval.

Mathematics Requirement: Since acceptable transfer courses vary among four-year colleges, students should choose courses in accordance with the specific requirements of the college to which they are seeking admission. It may be necessary for some students to take more than the required two courses in mathematics since courses in Calculus for Business I and II are required for admission by some colleges.

Electives: A wide variety of electives is available to fill the requirements of specific colleges in regard to transfer credits. Students are advised to contact the college to which they are seeking transfer to determine courses that should be taken at Northern Essex Community College. Recommended in many instances would be courses in history and government, humanities and additional courses in mathematics. Many four-year schools will also accept additional courses in business administration to satisfy their general elective requirements.

Commonwealth Transfer Compact: Those students who are planning to transfer to a four-year public college or university under the Commonwealth Transfer Compact should consult their advisor or the Director of Counseling for further information.

BUSINESS MATH SEQUENCE



NOTE: If a mathematics course requires a prerequisite, it is recommended that the student earn a C or better in the prerequisite before attempting the next course in the sequence.

NOTE: To fill the mathematics requirements for a degree in Accounting, Business Management or Business Transfer, select any two of the courses listed in the Business Math Sequence except that only one of the following courses may be used to fulfill this requirement: MA0020 Basic Math or MA5613 Math of Finance. If you are uncertain of your math background, go to the Math Lab (Room C-211) for advice.

TRANSFER NOTES: In order to transfer to Business Administration at the University of Massachusetts at Amherst, you must complete MA5675/MA5676 Calculus I and II for Business. The University of Lowell has agreed to accept MA5673 Quantitative Methods and MA5675/MA5676 Calculus I and II for Business in place of its Math Analysis Sequence. Your program is your responsibility; contact the college to which you may wish to transfer for current information.

CIVIL TECHNOLOGY

The associate in science degree program in Civil Technology provides students with theoretic and practical knowledge and experience which trains them as qualified technicians in the surveying, layout, plans and specifications, design and supervisory areas of the construction industry. This includes highway design, building design and site development. The theoretical presented also prepares students interested in education beyond the associate degree level. Many courses offered in the program are also transferable to the Engineering Science Program under the Commonwealth Transfer Compact. 64 credit hours of work are required for graduation. **PROGRAM PREREQUISITE:** Two years of Algebra; Geometry and Trigonometry helpful, but not required.

FIRST SEMESTER	CREDITS	SECOND SEMESTER	CREDITS
EN4401 English Composition I	3	EN4402 English Composition II	
MA5621 College Algebra & Trigonometry	4	MA5622 Advanced Algebra & Trig.	
ET6601 Graphics	2	CE6602 Surveying II	
CE6601 Surveying I	4	CE6612 Drawing for Civil Tech.	
Humanities/Soc. Sci. Elective*	3	CT6682 Computer Applications for	
	16	Science and Technology**	

THIRD SEMESTER	CREDITS	FOURTH SEMESTER	CREDITS
MA5651 Calculus for Technology	4	CE6672 Soil Mechanics	
CE6665 Transportation Engineering	3	CE6682 Field Engineering Problems	
CE6653 Strength of Materials	4	PI5622 Applied Physics II	
CE6651 Statics	3	CE6654 Structural Analysis & Design	
Humanities/Soc. Sci. Elective*	3	CE6671 Sanitary Engineering***	
	17		

*One elective from each of these divisions must be taken, but may be taken in any order.

**This course should be taken in years when Sanitary Engineering is not offered.

***This course will be taught every other Spring, starting with Spring, 1983.

COMMERCIAL ART

The one year certificate program in Commercial Art offers practical training in the skills needed for entry-level jobs in the commercial design field, an exposure to career possibilities in graphic communications, and a chance to develop a number of transferable skills. 27 credit hours of work are required for the certificate.

FIRST SEMESTER	CREDITS	SECOND SEMESTER	CREDITS
EN4401 English Composition I	3	EN4402 English Composition II	
FA7096 Introduction to Graphic Design	3	MK6679 Principles of Advertising	
FA7080 Color and Design	3	FA7097 Intermediate Graphic Design	
MK6678 Principles of Marketing	3	FA7098 Illustration OR	
FA7098 Illustration OR		HU4000 Introduction to Humanities OR	
HU4000 Introduction to Humanities OR		Graphic Arts Elective*	
Graphic Arts Elective*	3		
	15		

*Recommended Elective: Phototypesetting (special topics course offered at Greater Lawrence Technical School) or FA7051 Introductory Photography or FA7083/FA7084 Painting I and II.

COMPUTER-AIDED DRAFTING

The thirty-week certificate program in Computer Aided Drafting (CAD) is designed to give students a thorough background in engineering drafting, experience in the use of a CAD system, and knowledge of how CAD fits into Computer Integrated Manufacturing. 27 to 28 credit hours of work are required for the certificate. **PROGRAM PREREQUISITE:** Two years of high school algebra or equivalent.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
MA5621	College Algebra & Trigonometry	4	ST8453	Microcomputer Graphics**	4
ET6600	Engineering Drafting	3	ST8450	Computer Aided Drafting**	3
CT6633	Intro. Data Processing/BASIC OR			Elective†	3
CT6639	Intro. Data Processing/PASCAL*	4	EN4401	English Composition I	3
ST8448	Introduction to CAD/CAM**	3			13
TW6610	Keyboarding***	1			
		14/15			

*For students with a demonstrated knowledge of the BASIC programming language.

**Special topics offering not listed in catalog.

***For students without typing skills.

†It is recommended that students consider taking either FA7096 Introduction to Graphic Design or FA7098 Illustration.

COMPUTER MAINTENANCE TECHNOLOGY

The associate in science degree program in Computer Maintenance Technology is designed as a career program to train students for positions as technicians skilled in digital computer software and hardware. Students concentrate on programming in Assembly language and higher level languages, and on analyzing and trouble-shooting electronic circuits and systems. Laboratories emphasize hands-on experience with up-to-date computers and electronic instruments. 65/66 credit hours of work are required for graduation. **PROGRAM PREREQUISITE:** Two years of high school Algebra or equivalent.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
EN4401	English Composition I	3	MA5622	Advanced Algebra & Trig	4
MA5621	College Algebra & Trig	4	ET6672	Electronics I	5
CT6601	Fundamentals of Digital Logic	3	ET6690	Microcomputers	4
ET6603	Digital Lab	1	CT6633	Intro Data Processing w/BASIC	4
ET6111	Intro. to Electric Circuits	4			17
		15			
THIRD SEMESTER		CREDITS	FOURTH SEMESTER		CREDITS
EN4402	English Composition II	3	CT6683	Computer System Troubleshooting	4
ET6682	Digital Electronics	4		Humanities Elective	3
ET6673	Electronics II	5		Social Science Elective	3
	Technical Elective	4		Technical Elective	3/4
		16		Technical Elective	4
					17/18



COMPUTER TECHNOLOGY

The associate in science degree program in Computer Technology offers two options which train students in the skills necessary for employment in data processing. Students receive extensive experience writing, keying-in and "debugging" programs on the college's computer systems. Our graduates have entered varied areas of computer technology including systems analysis training programs, programming and data processing management. Two options of the Computer Technology program are offered:

BUSINESS PROGRAMMING OPTION:

Develops skills based on a strong background in mathematics, accounting and communications. Students wishing to transfer to a four-year college after receiving an associate degree in the Business Programming Option should consider a bachelor's degree in Business. 68 to 71 credit hours of work are required for graduation in this option. **PROGRAM PREREQUISITE:** Two years of Algebra.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
EN4401	English Composition I	3	EN4402	English Composition II	3
	Math Elective*	4/5		Math Elective*	3/4
CT6639	Intro. Data Processing/PASCAL	4	CT6640	Data Structures	4
	Elective**	3	AC6601	Introductory Accounting I	4
TW6610	Keyboarding	1	CT6652	COBOL Programming	4
		15/16			18/19
THIRD SEMESTER		CREDITS	FOURTH SEMESTER		CREDITS
CT6676	Business Systems Anal. & Design	4	CT6653	Advanced COBOL	4
CT6649	Assembly Language Programming	4		Programming Elective	4
AC6602	Introductory Accounting II	4	MA5506	Statistics	3
	Social Science Elective	3		Social Sci/Humanities Elective	3
	Humanities Elective	3		Technical Elective***	3/4
		18			17/18

*Acceptable sequences of Math electives are: MA5621 College Algebra & Trigonometry and MA5622 Advanced Algebra & Trigonometry; MA5621 College Algebra & Trigonometry and MA5673 Quantitative Methods; MA5621 College Algebra & Trigonometry and MA5690 Calculus I; MA5690 Calculus I and MA5692 Calculus II (see Computer Technology math chart).

**Reading Strategies may be taken.

***Technical electives include upper level math courses but any offering in Computer Technology or Business Administration would be particularly appropriate.

COMPUTER SCIENCE OPTION:

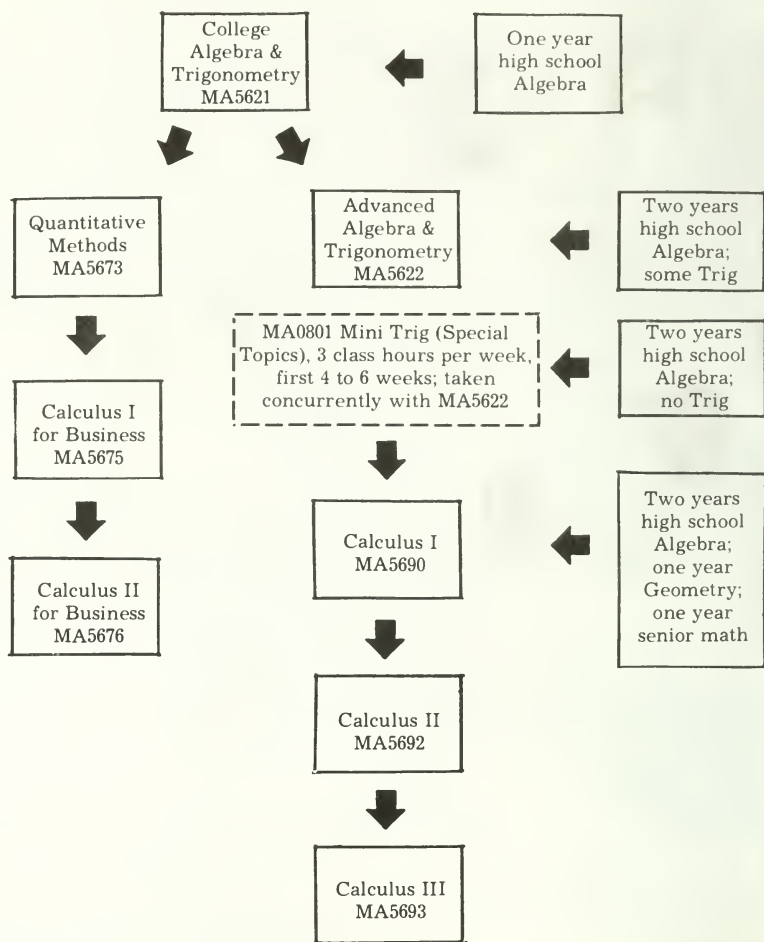
Designed for the student wishing to transfer to a four-year college and major in computer science after receiving the associate degree. This option stresses mathematics, scientific programming and computer hardware as basic to computer science. 69 to 71 credit hours of work are required for graduation in this option. **PROGRAM PREREQUISITE:** Two years of Algebra.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
EN4401	English Composition I	3	EN4402	English Composition II	3
	Math Elective*	4/5		Math Elective*	3/4
CT6639	Intro. Data Processing/PASCAL	4	CT6640	Data Structures	4
CT6601	Fundamentals of Digital Logic	3	ET6690	Microcomputers	4
ET6603	Digital Lab	1		Elective*	3
TW6610	Keyboarding	1			17/18
		16/17			
THIRD SEMESTER		CREDITS	FOURTH SEMESTER		CREDITS
MA5506	Statistics	3	CT6661	Adv. Computer System Prog.	4
CT6622	Fortran Programming	4		Technical Elective**	4
CT6651	Adv. Assembly Language Prog.	4		Technical Elective**	4
	Technical Elective**	4		Soc. Sci/Humanities Elective	3
	Humanities Elective	3		Social Science Elective	3
		18			18

*Acceptable sequences of Math electives are MA5621 College Algebra & Trigonometry and MA5622 Advanced Algebra & Trigonometry; MA5621 College Algebra & Trigonometry and MA5690 Calculus I; MA5690 Calculus I and MA5692 Calculus II (see Computer Technology math chart).

**Technical electives include Chemistry, Physics, Calculus, Differential Equations, COBOL Programming, Advanced COBOL Programming, any offering of the Department of Engineering & Technology (CT or ET courses).

COMPUTER TECHNOLOGY MATH SEQUENCE BUSINESS PROGRAMMING OPTION

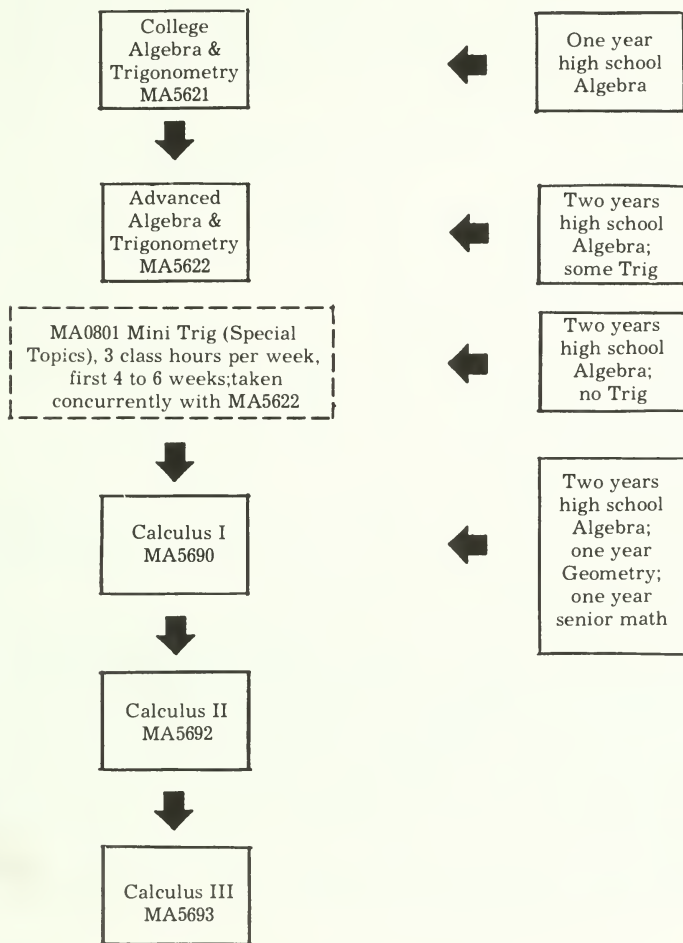


NOTE: If a mathematics course requires a prerequisite, it is recommended that the student earn a C or better in the prerequisite before attempting the next course in the sequence.

NOTE: Students transferring to a four year college should consider a bachelor's degree in business.

COMPUTER TECHNOLOGY MATH SEQUENCE

SCIENCE OPTION



NOTE: If a mathematics course requires a prerequisite, it is recommended that the student earn a C or better in the prerequisite before attempting the next course in the sequence.

NOTE: Students transferring to a four year college should consider a bachelor's degree in science.

CRIMINAL JUSTICE

The associate in science degree program in Criminal Justice describes and analyzes the various aspects of the criminal justice system. The curriculum is designed to take a systems approach in understanding the crime problem in the United States. The program is structured to prepare students for professional careers, whether they are pre-service or already working in the criminal justice field. It is recognized that a majority of criminal justice students continue their criminal justice education at four-year institutions. Consequently, the curriculum has a broad, academic orientation, facilitating transfer to four-year institutions. 62 to 65 credit hours of work are required for graduation.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
EN4401	English Composition I	3	EN4402	English Composition II	3
PS1101	Introduction to Psychology	3		Math Elective*	3/4
SO3321	Introduction to Sociology	3	SO3353	Intro. to Criminology	3
GV3312	Intro. to Political Science	3	CJ3607	Functions of Police in Modern Society	3
CJ3603	Intro. to Criminal Justice	3	CJ3601	Concepts of Criminal Law	3
		15			15/16
THIRD SEMESTER		CREDITS	FOURTH SEMESTER		CREDITS
EN8011	Speech	3	GV3315	Civil Rights & Liberties	3
	Elective**	3	CJ3608	Intro. to Corrections	3
CJ3667	Crisis Intervention in Criminal Justice System***	3	CJ3670	Senior Seminar OR	3
	Natural Science Elective†	3/4	CJ3672	Field Practicum††	3
PE2016	Foundation of Health & Fitness	2		Math/Natural Sci. Elective*	3/4
CJ3609	Criminal Court System	3		Elective**	3
		17/18			15/16

*Unacceptable math courses: MA5512 Math for Elementary Education Teachers, MA0500 Math for Early Childhood Education, MA0501 Developmental Mathematics.

**Students must choose 2 humanities electives (in addition to Speech) in order to meet the requirements of the Commonwealth Transfer Compact. Courses other than Humanities may be selected, but students interested in transferring are advised to check the requirements of the institution to which they seek to transfer. Humanities electives should be selected from the following categories: foreign languages, communication, philosophy, art, music, literature, religion, theatre.

***Crisis Intervention will be offered in both the third and fourth semesters (one section each semester).

†Natural Science Electives: courses should be selected from the following categories: biology, chemistry, earth science or science.

††The Field Practicum will apply to pre-service students, and the Senior Seminar will generally apply to in-service students.

NOTE: additional credits in the second, third and fourth semesters are a result of the possibility of the student selecting a four-credit elective or requirement.

DENTAL ASSISTANT

The two-semester certificate program in Dental Assistant is taught in the Dental Clinic/Laboratory and X-ray Room of Greater Lawrence Technical School, Andover, MA, and at the Haverhill campus of the college. The program is accredited by the Commission on Dental Accreditation of the American Dental Association. The curriculum provides the student with knowledge and practical skills required to perform dental assisting functions competently. Ten weeks of practical experience is provided in local dental offices to perfect the student's competence in performing dental assisting functions. Students who successfully pass the Certification for Dental Assistants examination sponsored by the Dental Assisting National Board, Inc. become Certified Dental Assistants. 36 credit hours of work are required for the certificate. **PROGRAM PREREQUISITE:** A high school diploma or equivalent and a personal interview are required for admission to the program.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
DA0100	Dental Assisting I	5	DA0200	Dental Assisting II	3
DA0105	Dental Clinical I	4	DA0205	Dental Clinical II	1
DA0110	Oral Science I	3	DA0250	Dental Radiology II	1
DA0130	Dental Radiology I	2	DA0245	Oral Science II	1
PS1101	Introduction to Psychology	3	DA0275	Dental Seminar	1
EN4401	English Composition I	3	DA0280	Dental Assisting Practicum	5
		20	BI5510	Human Biology	3
			PE1056	Cardiopulmonary Resuscitation (C.P.R.)	1
					16

Malpractice Insurance: All Dental Assistant students are required to carry malpractice insurance. The premium is to be paid prior to the beginning of classes.

Health: Dental Assistant students are required to complete a health evaluation prior to beginning the program.

EARLY CHILDHOOD EDUCATION

The associate in science degree program in Early Childhood Education is career-oriented and trains students for a professional role in the field of early childhood education. How children grow, develop and learn will become more meaningful through course work, directed observation and through the study of the child both as an individual and as he functions in a variety of group settings. An integral part of this program is, therefore, the practicum placement which allows the student to apply theory and skills, under guidance and supervision, in a variety of classrooms and educational programs. The program also provides the foundation for further study in the field of early childhood education. All courses prefaced by "CC" and ED0402 are restricted to students accepted and enrolled in the Early Childhood Education program. Other students may elect these courses only with the permission of the Coordinator. 65 to 66 credit hours of work are required for graduation. **PROGRAM PREREQUISITE:** Letters of reference and a personal interview with the Coordinator are required prior to acceptance.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
EN4401	English Composition I	3	EN4402	English Composition II	3
PS1101	Introduction to Psychology	3	PS1151	Child Psychology	3
BI5510	Human Biology	3	ED0401	Teaching Reading in Early Childhood OR	
CC2201	Intro. to Early Childhood Ed.	3	ED0402	Teaching Reading Readiness	3
FA7012	Introduction to the Creative Experience†	3	CC2312	Early Childhood Ed Practicum I	3
CC2311	Observation & Recording of Child Behavior	1	PE2294	Learning Through Movement	2
		16		Natural Science Requirement	3/4
					17/18

THIRD SEMESTER		CREDITS	FOURTH SEMESTER		CREDITS
EN8011	Speech	3	CC2264	Seminar in Philosophy of	
PS2112	Problems in Early Childhood Ed	3		Early Childhood Education	3
CC2353	Early Childhood Ed Practicum II	4	MA0500	Math for Early Childhood Ed	3
	Humanities Elective*	3	CC2354	Early Childhood Ed Practicum III	4
	Sociology Elective**	3	PE2002	First Aid & Safety	3
		16		Elective***	3
					16

*Course in one of the following areas: foreign languages, philosophy, art, music, literature, religion and theatre.

**All courses prefixed "SO" in the catalog are sociology courses.

***Persons who wish to transfer to other colleges after graduation should elect courses which satisfy the requirements of those colleges and of the Commonwealth Transfer Compact.

†Must be taken in the Fall semester.

ELECTRONIC TECHNOLOGY

The associate in science degree program in Electronic Technology is designed primarily to equip students for employment (often as an engineering assistant) with immediately marketable skills in electronic technology, both analog and digital. This curriculum concentrates on developing complex, interdependent electronic techniques. Heavy emphasis is put on use of state-of-the-art devices and laboratory equipment, and the preparing of complete, analytical laboratory reports. Recently, Bachelor of Engineering Technology programs have been developed nation-wide and the student who plans to continue education at a four-year institution should consider these new programs. 68 to 69 credit hours of work are required for graduation. **PROGRAM PREREQUISITE:** Two years of Algebra; Geometry and Trigonometry helpful, but not required.

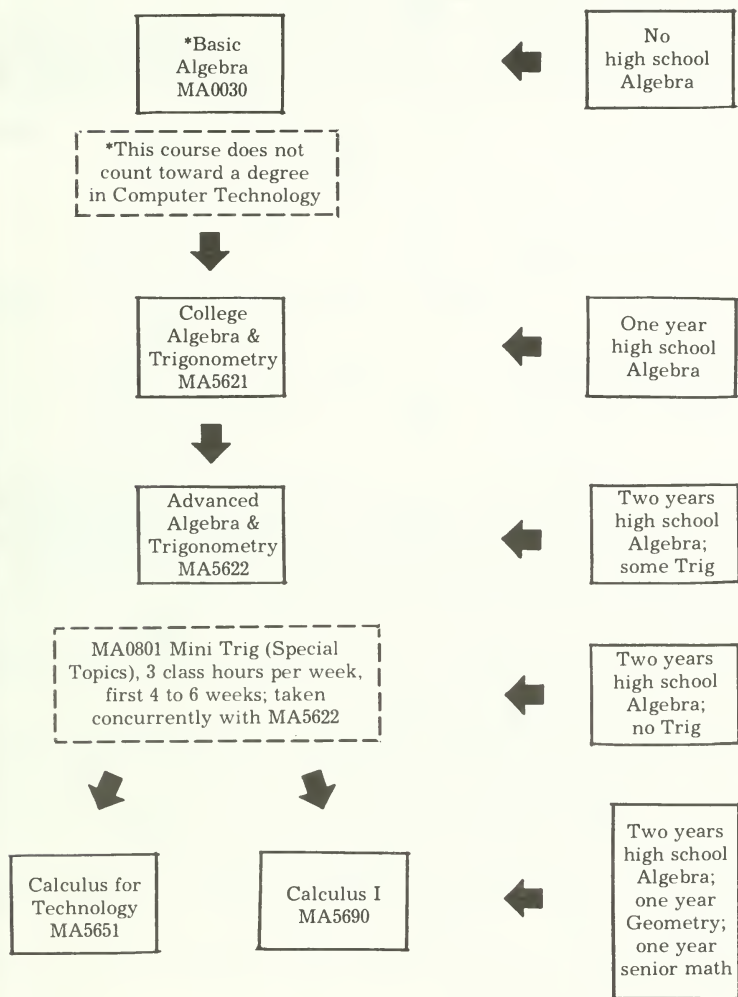
FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
EN4401	English Composition I	3	EN4402	English Composition II	3
MA5621	Algebra & Trigonometry	4	MA5622	Advanced Algebra & Trig.	4
ET6611	Circuit Analysis I	4	ET6612	Circuit Analysis II	4
CT6601	Fundamentals of Digital Logic	3	ET6672	Electronics I	5
ET6603	Digital Lab	1		Liberal Arts Elective	3
		15			19
THIRD SEMESTER		CREDITS	FOURTH SEMESTER		CREDITS
ET6673	Electronics II	5	ET6684	Electronic Systems	4
PI5621	Applied Physics I	4	PI5622	Applied Physics II	4
	Technical Elective*	4		Liberal Arts Elective	3
	Technical Elective*	4		Technical Elective**	3/4
		17		Elective	3
					17/18

***THIRD SEMESTER TECHNICAL ELECTIVES:** ET6682 Digital Electronics, CT6651 Assembly Language Programming, ET6653 Circuit Analysis III, MA5651 Calculus for Technology, MA5690 Calculus I.

****FOURTH SEMESTER TECHNICAL ELECTIVES:** ET6690 Microcomputers, MA5652 Advanced Calculus for Technology, MA5692 Calculus II, CT6622 FORTRAN Programming, CT6624 PASCAL Programming, CT6633 Introduction to Data Processing/BASIC, CT6682 Computer Applications in Engineering & Technology.

TECHNICAL MATH SEQUENCE

For students in the following programs: Electronic Technology, Civil Technology, Computer Maintenance.



NOTE: If a mathematics course requires a prerequisite, it is recommended that the student earn a C or better in the prerequisite course before attempting the next course in the sequence.

ENGINEERING SCIENCE

The associate in science degree program in Engineering Science is designed to prepare an engineering student for transfer to a four-year college or university. A core curriculum has been developed in cooperation with the American Association for Engineering Education and engineering divisions of several four-year institutions. The core curriculum allows the student an opportunity to explore various engineering fields equipping him/her to choose the field of specialization best suited to his/her interests and abilities. The fields of engineering include chemical, industrial, electrical, civil and mechanical. A strong background in mathematics is required. 68 credit hours of work are required for graduation. **PROGRAM PREREQUISITE:** Two years of Algebra; Geometry; Trigonometry; one year of Physics or Chemistry.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
EN4401	English Composition I	3	EN4402	English Composition II	3
MA5690	Calculus I	4	MA5692	Calculus II	4
	Elective*	3/4	PI5623	Engineering Physics I	4
ET6601	Graphics	2		Elective*	3
	Communications Elective	3		Elective*	3
		15/16			17
THIRD SEMESTER		CREDITS	FOURTH SEMESTER		CREDITS
MA5693	Calculus III	4		Technical Elective**	4
PI5624	Engineering Physics II	4		Technical Elective**	3/4
ET6651	Engineering Mechanics I	3	PI5651	Engineering Physics III	4
	Technical Elective**	4		Technical Elective**	4
	Elective*	3		Elective*	3
		18			18/19

***STATEMENT ON ELECTIVES:** A minimum of nine semester hours of electives must be taken in humanities or the social sciences. During the first semester, the student should contact the college to which he/she plans to transfer and then select both technical and general electives to fulfill his/her transfer goals. Proposed technical electives from outside the lists below will be considered, but must be approved by the Chairperson, Department of Engineering and Technical Studies.

****SUGGESTED TECHNICAL ELECTIVES** for various engineering branches (this list is not to be considered complete):

CIVIL ENGINEERING: Micro-Economics and Macro-Economics, Surveying I and II, Differential Equations, FORTRAN Programming, Computer Applications in Engineering and Technology, Chemistry I and II, Strength of Materials, Engineering Mechanics II.

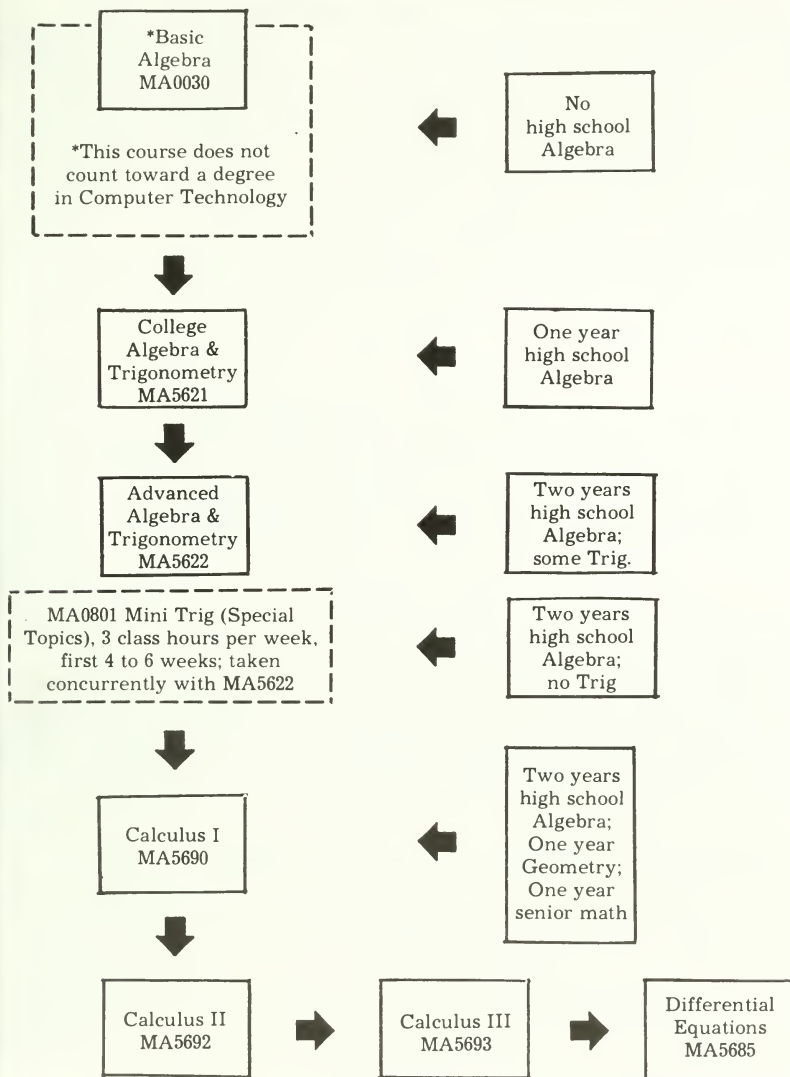
ELECTRONIC/ELECTRICAL ENGINEERING: Micro-Economics and Macro-Economics, Differential Equations, FORTRAN Programming, Computer Applications in Engineering and Technology, Strength of Materials, Fundamentals of Digital Logic, Networks I and II, Engineering Mechanics II, Chemistry I and II.

MECHANICAL ENGINEERING: Micro-Economics and Macro-Economics, Engineering Mechanics II, Differential Equations, FORTRAN Programming, Computer Applications in Engineering and Technology, Circuit Analysis I and II, Networks I and II, Chemistry I and II, Strength of Materials.

ENVIRONMENTAL ENGINEERING: Micro-Economics and Macro-Economics, FORTRAN Programming, Computer Applications in Engineering and Technology, Introductory Biology, Microbiology, Chemistry I and II.

CHEMICAL ENGINEERING: Introductory Chemistry I and II, General Chemistry I and II, Special Topics in Chemistry, Micro-Economics and Macro-Economics, FORTRAN Programming, Computer Applications in Engineering and Technology.

ENGINEERING MATH SEQUENCE



NOTE: If a mathematics course requires a prerequisite, it is recommended that the student earn a C or better in the prerequisite course before attempting the next course in the sequence.

EXECUTIVE SECRETARIAL

The associate in science degree program in Executive Secretarial proposes to train students to assume high-level secretarial positions on the administrative and executive levels. The two-year curriculum offers a balanced program of academic and technical courses leading to specialization in the executive secretarial area. The college-educated secretary finds a wide variety of opportunities in every business and in every profession. Several courses will prepare students to seek gainful employment in the modern electronic office by providing opportunities for them to learn skills on several kinds of automated office equipment which integrates the advances of office technology. 60 to 61 credit hours of work are required for graduation.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
EN4401	English Composition I	3	EN4402	English Composition II	3
AC6691	Elements of Accounting I	3	AC6692	Elements of Accounting II	3
	Shorthand*	3		Shorthand*	3
	Typewriting I, II or III**	3		Typewriting II, III or IV**	3
	Liberal Arts Elective	3	PS1101	Introduction to Psychology	3
		15			15
THIRD SEMESTER		CREDITS	FOURTH SEMESTER		CREDITS
	Shorthand* OR			Shorthand* OR	
	Secretarial Science Elective	3		Secretarial Science Elective	3
SL6661	Office Administration I	3		Secretarial Science Elective	3
TW6631	Typewriting III OR		LW6651	Business Law I	3
	Secretarial Science Elective	3		Speech or Literature	3
	Natural Science Elective	3/4		Liberal Arts Elective	3
	Elective	3			15
		15/16			

*See Shorthand Chart.

**Choose appropriate course after consultation with advisor.

SECRETARIAL SCIENCE ELECTIVES: TW6632 Typewriting IV, SL6673 Word Processing I, AC6693 Elements of Accounting III, AC6694 Simulation in Accounting, SL6668 Secretarial Field Experience, SH6623 Machine Shorthand, SH6680 Legal Office Practice and Procedures, SK6653 Machine Transcription, SL6671 Information Processing Concepts, SL6665 Essentials of Office Management, SL6682 Managerial Communications, MG6690 Introduction to Management Information Systems.

EXECUTIVE SECRETARIAL: Accounting Option

The associate in science degree program in Executive Secretarial with Accounting Option offers an intensive preparation in the field of applied accounting as well as in secretarial skills. Business offices such as insurance firms, banks, real estate offices and mercantile establishments employ secretaries with accounting background and skills. Promotional opportunities to executive and managerial positions are especially prevalent for graduates with a strong combination of secretarial and accounting skills. 60 to 61 credit hours of work are required for graduation.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
EN4401	English Composition I	3	EN4402	English Composition II	3
AC6691	Elements of Accounting I	3	AC6692	Elements of Accounting II	3
	Shorthand*	3		Shorthand*	3
	Typewriting I, II or III**	3		Typewriting II, III or IV**	3
	Liberal Arts Elective	3	PS1101	Introduction to Psychology	3
		15			15

THIRD SEMESTER		CREDITS	FOURTH SEMESTER		CREDITS
	Shorthand* OR			Shorthand* OR	
	Secretarial Science Elective	3		Secretarial Science Elective	3
SL6661	Office Administration I	3	AC6694	Simulation in Accounting	3
TW6631	Typewriting III OR			Speech or Literature	3
	Group A Elective***	3		Liberal Arts Elective	3
AC6693	Elements of Accounting III	3		Group A Elective***	3
	Natural Science Elective	3/4			15
		15/16			

*See Shorthand Chart.

**Choose appropriate course after consultation with departmental advisor.

***GROUP A ELECTIVES: LW6651 Business Law I, AC6671 Cost Accounting, AC6682 Tax Accounting, FL6651 Principles of Insurance, FL6663 Principles of Real Estate, MG6666 Principles of Management and all electives listed as Secretarial Science Electives with the Executive Secretarial curriculum.

EXECUTIVE SECRETARIAL: Legal Option

The associate in science degree program in Executive Secretarial with Legal Option provides the opportunity for students to achieve not only superior secretarial skills to assume high-level, executive secretarial positions, but gives preparation for responsible positions in the legal field. The background necessary for a legal secretary is provided by courses in business law as well as courses in legal terminology and law office duties. 60 to 61 credit hours of work are required for graduation.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
EN4401	English Composition I	3	EN4402	English Composition II	3
AC6691	Elements of Accounting I	3	AC6692	Elements of Accounting II	3
	Shorthand*	3		Shorthand*	3
	Typewriting I, II or III**	3		Typewriting II, III or IV**	3
	Liberal Arts Elective	3	PS1101	Introduction to Psychology	3
		15			15
THIRD SEMESTER		CREDITS	FOURTH SEMESTER		CREDITS
	Shorthand*	3	SH6692	Legal Dictation for	
LW6651	Business Law I	3		Word Processing	3
SH6680	Legal Office Practices		LW6652	Business Law II	3
	& Procedures	3		Natural Science Elective	3/4
SH6673	Word Processing I	3		Liberal Arts Elective	3
	Speech or Literature	3	FL6663	Principles of Real Estate	3
		15			15/16

*See Shorthand Chart.

**Choose appropriate course after consultation with departmental advisor.

NOTE: Secretarial Science Electives are listed with the Executive Secretarial curriculum.

EXECUTIVE SECRETARIAL: Medical Option

The associate in science degree program in Executive Secretarial with Medical Option provides an intensive program of academic and secretarial science courses combined with medical courses as preparation for employment in medical offices and other businesses directly related to the practice of medicine. The course material emphasizes medical terminology, medical transcription and office procedures, as well as secretarial skills in stenography. 60 to 61 credit hours of work are required for graduation.

SHORTHAND CONCENTRATION:

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
EN4401	English Composition I	3	EN4402	English Composition II	3
AC6691	Elements of Accounting I	3	AC6692	Elements of Accounting II	3
	Shorthand*	3		Shorthand*	3
	Typewriting I, II or III**	3		Typewriting II, III or IV	3
	Liberal Arts Elective	3	PS1101	Introduction to Psychology	3
		15			15
THIRD SEMESTER		CREDITS	FOURTH SEMESTER		CREDITS
	Shorthand*	3		Speech or Literature	3
PE2002	First Aid and Safety	3		Liberal Arts Elective	3
TW6631	Typewriting III OR		MR6606	Medical Terminology II	3
	Secretarial Science Elective***	3	SK6655	Medical Machine Transcription	
MR6605	Medical Terminology I	3		for Word Processing	3
	Natural Science Elective		SL6680	Medical Office Administration	3
	(Human Biology)	3/4			15
		15/16			

*See Shorthand Chart.

**Choose appropriate course after consultation with departmental advisor.

***Secretarial Science Electives are listed with the Executive Secretarial curriculum.

MACHINE TRANSCRIPTION CONCENTRATION:

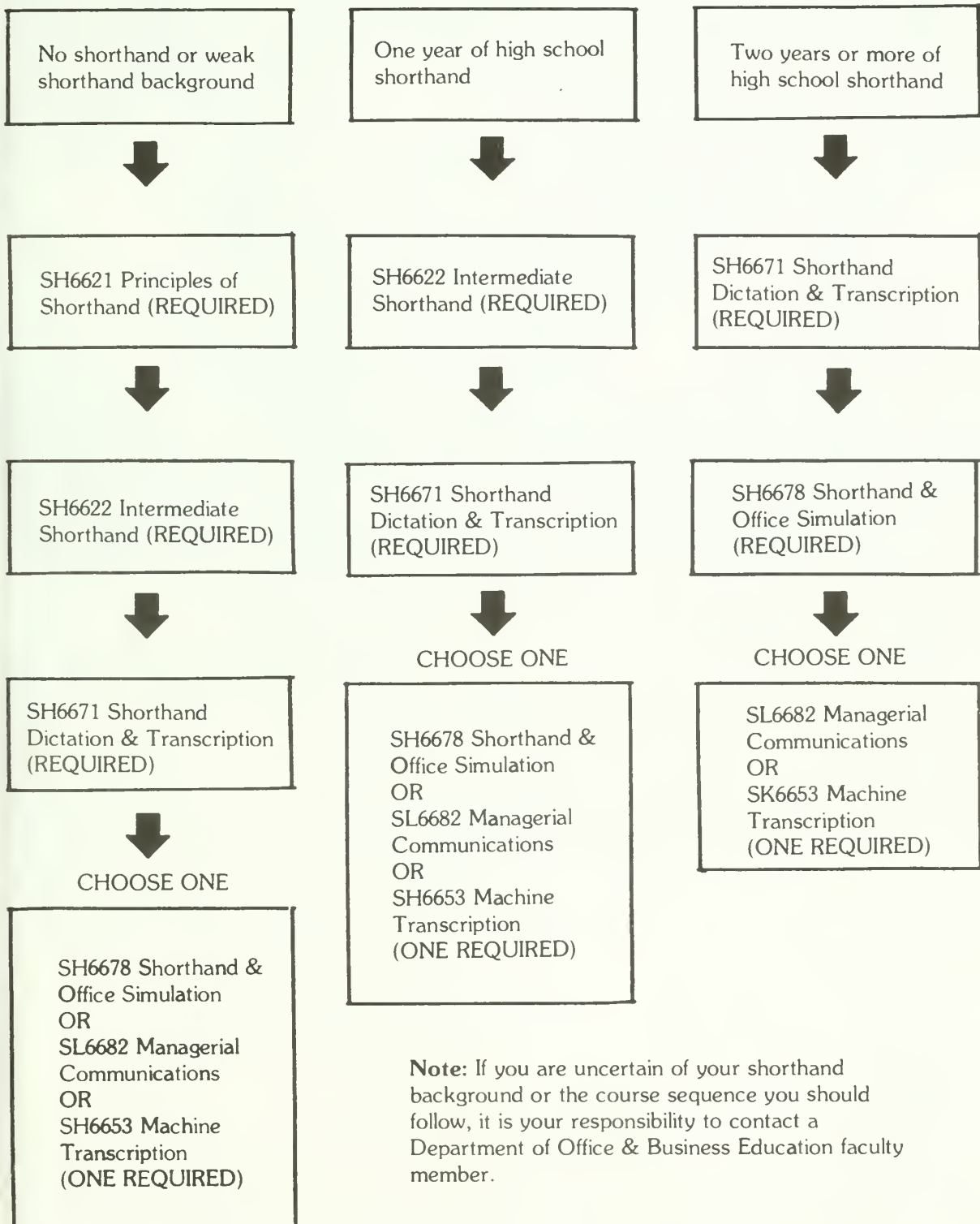
FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
EN4401	English Composition I	3	EN4402	English Composition II	3
AC6691	Elements of Accounting I	3	AC6692	Elements of Accounting II	3
	Typewriting I, II or III*	3		Typewriting II, III or IV	3
	Liberal Arts Elective	3	PS1101	Introduction to Psychology	3
SL6671	Information Processing Concepts	3	SL6682	Managerial Communications	3
		15			15
THIRD SEMESTER		CREDITS	FOURTH SEMESTER		CREDITS
PE2002	First Aid and Safety	3		Speech or Literature	3
	Typewriting III OR			Liberal Arts Elective	3
	Secretarial Science Elective***	3	MR6606	Medical Terminology II	3
MR6605	Medical Terminology I	3	SK6655	Medical Machine Transcription	
	Secretarial Science Elective***	3		for Word Processing	3
	Natural Science Elective		SL6680	Medical Office Administration	3
	(Human Biology)	3/4			15
		15/16			

*Choose appropriate course after consultation with departmental advisor.

**Secretarial Science Electives are listed with the Executive Secretarial curriculum.

EXECUTIVE SECRETARIAL SHORTHAND CHART

Shorthand chart for students in Executive Secretarial programs with a Shorthand Concentration. A minimum of two courses is required for all students except those students beginning their study with SH6621 Principles of Shorthand who must complete a minimum of three courses.



FOOD SERVICE MANAGEMENT

The associate in science degree program in Food Service Management provides a broad academic background and business management education as well as practical and related instruction and experience in all phases of food service operation and management. Graduates will be qualified for entry management positions in one of the largest industries in the country. Opportunities are available in restaurants, hospitals, schools, industry and private business for restaurant managers, merchandising managers, training directors, food service managers and others. The program is offered jointly by Northern Essex Community College and the Greater Lawrence Technical School. All classroom courses are held on the college campus. Laboratory courses and the clinical experience are located at the regional institute. 66 credit hours of work are required for graduation.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
EN4401	English Composition I	3	EN4402	English Composition II	3
AC6601	Introductory Accounting I	4	AC6602	Introductory Accounting II	4
MA5613	Mathematics of Finance	3	MK6678	Principles of Marketing	3
FS6601	Introduction to the Food Service Industry	4	FS6602	Food Service Operation I	4
				Liberal Arts Elective*	3
FS6626	Food Service Supervision	3			
		17			17

SUMMER SESSION

An eight-week summer work experience within the food service industry is required. As an alternative, other time periods within the college year may qualify. Acceptable completion of a report on work experience is an essential aspect in meeting this requirement. In no event shall work experience prior to student enrollment in the program satisfy this requirement.

THIRD SEMESTER		CREDITS	FOURTH SEMESTER		CREDITS
LW6651	Business Law I	3	EC3652	Survey of Economics	3
	Natural Science Elective	3	MG6666	Principles of Management	3
FS6625	Food Service Management I	3		Liberal Arts Elective	3
	Liberal Arts Elective	3		Liberal Arts Elective	3
FS6611	Food Service Operations II	4	FS6612	Food Service Operations III	4
		16			16



GENERAL STUDIES

The associate in arts degree in General Studies is designed to provide a flexible curriculum which combines a core of transfer courses (the program meets the requirements of the Commonwealth Transfer Compact) with an opportunity to explore occupational courses in such career areas as engineering, computer science, management and health professions. It is a practical program for students undecided about career objectives. 34 to 36 credit hours of work in **core requirements** plus 3 credits in **Liberal Arts electives** plus 24 **free electives** - a total of 61 to 63 credits are required for graduation.

CORE REQUIREMENTS*: 34 to 36 Credits

Composition I and II	6 credits
Behavioral Sciences	3 credits
Foreign Languages/Philosophy/Religion/Creative Arts	3 credits
History/Government/Political Science**	3 credits
Humanities.....	3 credits
Literature	3 credits
Mathematics	3/4 credits
Social Science	3 credits
Science.....	4 credits
Math/Science Elective	3/4 credits

*Corresponds with Commonwealth Transfer Compact requirements.

**It should be noted that two four-year colleges, Salem State and University of Massachusetts at Boston, require Western Civilization I and II for graduation in most programs.

ELECTIVES: 27 Credits

Liberal Arts Electives.....	3 credits
Free Electives*	24

*May include courses outside the Liberal Arts.

GERONTOLOGY

The associate in science degree program in Gerontology is a career program designed for those interested in working with older persons. It offers students of all ages and backgrounds paraprofessional job entry skills for a wide variety of elder service programs, and a solid academic preparation which can transfer to a bachelor degree program. This program is option one of the interdivisional Gerontology offerings. 61 to 63 credit hours of work are required for graduation.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
EN4401	English Composition I	3	EN4402	English Composition II	3
PS1101	Introduction to Psychology	3	SO3356	Psychosocial Aspects of Aging	3
PS6551	Adulthood & Aging	3	PS1354	Human Relations	3
	History/Government Elective	3		History/Government Elective	3
	Humanities Elective*	3		Humanities Elective*	3
		15			15
THIRD SEMESTER		CREDITS	FOURTH SEMESTER		CREDITS
	Natural Science Elective	3/4		Natural Science Elective	3/4
GR6561	Practicum I**	4	GR6562	Practicum II**	4
GR6556	Law, Advocacy and Aging	3		Math Elective	3
	Humanities Elective*	3		Free Elective	3
	Free Elective	3		Free Elective	2
		16/17			15/16

*Any course offered by the departments of English, Creative Arts, Philosophy, Religion and Foreign Languages.

**In some instances, the Coordinator may recommend that a suitable course be substituted for one or both of the practicums for persons who have had significant, demonstrable experience working with elders. Practicum courses will be limited to students enrolled in the Gerontology program.

NOTE: Students planning to transfer to colleges offering a baccalaureate degree are advised to consult the course requirements of the colleges in which they are interested when selecting electives. Students completing this program will be eligible for transfer under the provisions of the Commonwealth Transfer Compact.

GERONTOLOGY

The one-year certificate program in Gerontology is designed to offer a core of Gerontology courses to professionals and paraprofessionals of all ages who wish to upgrade their skills and knowledge in this emerging and challenging field. 32 to 33 credit hours of work are required for the certificate.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
EN4401	English Composition I	3	EN4402	English Composition II	3
PS6551	Adulthood & Aging	3	SO3356	Psychosocial Aspects of Aging	3
GR6556	Law Advocacy and Aging	3	GR6562	Practicum II*	4
GR6561	Practicum I*	4	PS1354	Human Relations	3
	Natural Science Elective	3/4		Elective	3
		16/17			16

*In some instances, the Coordinator may recommend that a suitable course be substituted for one of the practicums for persons who have had significant, demonstrable experience working with elders. Practicum courses will be limited to students enrolled in the Gerontology program.

INFORMATION MANAGEMENT

The one-year certificate program in Information Management is designed as a short, intensive career program for immediate job placement. There is intensive concentration in the technical areas of data processing, word processing and office management. All credits may be transferred to the associate degree programs in Office Administration or Word Processing Technology & Management. 24 to 26 credit hours of work are required for the certificate.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
TW6622	Typewriting II OR		SL6665	Essentials of Office Management	3
TW6631	Typewriting III	3	SL6674	Word Processing II	3
MG6690	Introduction to Management Information Systems OR		SL6682	Managerial Communications	3
			Liberal Arts Elective		3/4
CT6633	Intro. Data Processing/BASIC	3/4			12/13
SL6673	Word Processing I	3			
SL6671	Information Processing Concepts	3			
		12/13			

*Choose appropriate course after consultation with departmental advisor.

INTERPRETER TRAINING

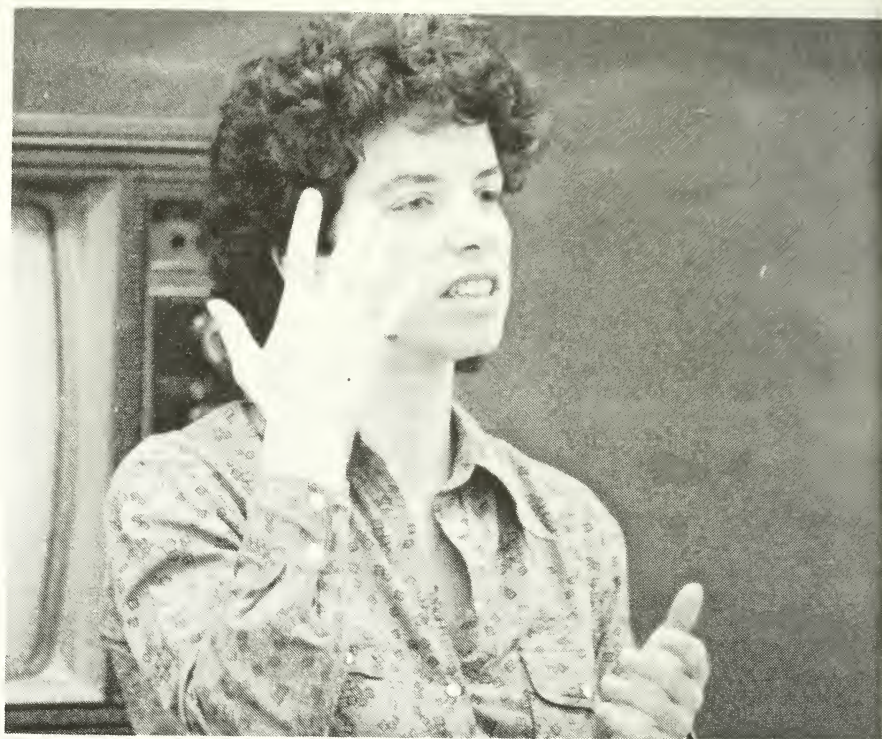
The associate in science degree program in Interpreter Training is designed to provide students with a broad based educational experience based on a balance and diversity of general education, sign language and interpreting courses. Students are provided the opportunity to develop an understanding of the profession of interpreting for deaf and hearing individuals and the knowledge, attitude and skills necessary to function as professional interpreters in a variety of settings. The program also provides for career exploration within the field of deafness and the basic academic preparation for possible transfer to bachelor degree programs. 65 to 67 credit hours of work are required for graduation.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
IN1001	Sign Language I	4	IN1002	Sign Language II	4
IN1010	Orientation to Deafness	3	PS1355	Deafness: Individual & Society	3
EN5500	Introduction to Language Science Elective*	3/4	IN1030	Intro. to Interpreting Field	3
PS1101	Introduction to Psychology	3	IN1040	Introduction to Practicum	1
		16/17	EN4401	English Composition I	3
			TH7785	Mime	3
					17
THIRD SEMESTER		CREDITS	FOURTH SEMESTER		CREDITS
IN2003	Sign Language III	4	IN2033	Advanced Interpreting	4
IN2031	Interpreting	3	IN2041	Practicum II	3
IN2039	Practicum I	3		Science Elective*	3/4
EN4402	English Composition II	3		Elective**	3
	Math Elective	3		Elective**	3
		16			16/17

*Students may choose any laboratory or non-laboratory science course. (Laboratory science courses recommended for students intending to transfer.)

**Students must choose at least 3 additional credits in the areas of Humanities and Social Sciences in order to meet the distribution requirements of the Commonwealth Transfer Compact. Students who wish to transfer to other colleges after graduation should elect courses which satisfy the requirements of those colleges and/or the Commonwealth Transfer Compact.

NOTE: The Interpreter Training courses must be taught in sequence as skills are developmental.



INTERPRETER TRAINING

The certificate program in Interpreter Training is designed to provide the students with an opportunity to develop an understanding of the profession of interpreting for deaf and hearing individuals and the knowledge, attitude and skills necessary to function as professional interpreters in a variety of settings. The program also provides for career exploration within the field of deafness. Credits earned in the certificate program may be applied toward associate degree requirements in Interpreter Training. 41 credit hours of work are required for the certificate.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
IN1001	Sign Language I	4	IN1002	Sign Language II	4
IN1010	Orientation to Deafness	3	IN1030	Intro. to Interpreting Field	3
EN5500	Introduction to Language	3	IN1040	Introduction to Practicum	1
PS1101	Introduction to Psychology	3	PS1355	Deafness: Individual & Society	3
		13			11
THIRD SEMESTER		CREDITS	FOURTH SEMESTER		CREDITS
IN2003	Sign Language III	4	IN2033	Advanced Interpreting	4
IN2031	Interpreting	3	IN2041	Practicum II	3
IN2039	Practicum I	3			7
		10			

NOTE: The Interpreter Training courses must be taught in sequence as skills are developmental. In order to obtain the certificate, students must take all the Interpreter Training courses plus the three general education courses designated in the above outline.

LIBERAL ARTS

The associate in arts degree in Liberal Arts requires students to complete minimum requirements in the seven specific areas listed below. 44 credit hours of work in **core requirements** plus 16 credit hours of work in **elective courses** - a total of 60 credits are required for graduation.

CORE REQUIREMENTS: 44 Credits

Composition I and II	6 credits
Behavioral Sciences*	6 credits
Foreign Languages/Philosophy/Religion/Creative Arts**	6 credits
History/Government/Political Science	6 credits
Literature***	6 credits
Mathematics****	6 credits
Natural Science	8 credits

*All courses offered in Anthropology, Psychology and Sociology.

**Art, Dance, Music, Photography, Theater

***Any course offered by the Department of English which includes the word "literature" anywhere in the course title.

****Any math course except the following: MA0020 Basic Mathematics, MA0030 Basic Algebra, MA0500 Mathematics for Early Childhood Education, MA0501 Developmental Mathematics, MA5512 Mathematics for Elementary Education, MA5513 Mathematics of Finance.

FREE ELECTIVES: 16 Credits (or more)

Free electives include any course offered by the Departments of English; Foreign Languages; Philosophy & Religion; Creative Arts; History & Government; Psychology, Anthropology and Sociology; Mathematics and Natural Sciences. Students may also take up to 3 credits in the Department of Sport and Leisure Studies and/or* up to 6 credits in courses offered by any other department in the college. (Additional electives in other areas must be approved in advance by the Dean of Academic Affairs and the Liberal Arts chairpersons.)

*Students may take up to 16 credits in courses offered by any other department of the college if they are identified as being enrolled in an approved Liberal Arts Degree Concentration.

PLANNING YOUR LIBERAL ARTS PROGRAM: In order to help students focus their Liberal Arts studies more effectively and choose courses which meet their individual needs and interests, Northern Essex has developed a number of suggested approaches to the scheduling of courses in the Liberal Arts program. These include Course Concentrations, Degree Concentrations and the Part-Time Studies Program. Students can design their own program of study with help from faculty advisors, with particular attention to specific courses they will need for transfer.

DAY PART-TIME STUDIES PROGRAM: This program offers a special schedule of regularly offered Day Division college courses, many of which conveniently **meet once each week**. All credits earned from these courses may be applied towards a degree at Northern Essex Community College or be transferred to another college. The majority of courses meet during the morning from 9:00 to 11:45 A.M. or in the afternoon from 12:00 to 2:45 P.M. Participants in the Part-Time Studies Program have the advantage of a one-step, simplified admission/registration procedure. In addition, they have the opportunity to elect a pro-rated tuition plan and may choose to register for up to ten credits (three courses). For further information you are encouraged to contact the Director of Admissions.

DEGREE CONCENTRATIONS

Students matriculated in the Liberal Arts program may take up to 16 credits offered by any other department in the college if they are identified as being enrolled in an approved Liberal Arts Degree concentration. The following Degree Concentrations are currently available.

GERONTOLOGY

The Liberal Arts degree concentration in Gerontology is a strong liberal arts program with several electives in aging. It is intended for the student who would like to know more about later life either for personal enrichment or to explore working with the elderly as a career choice.

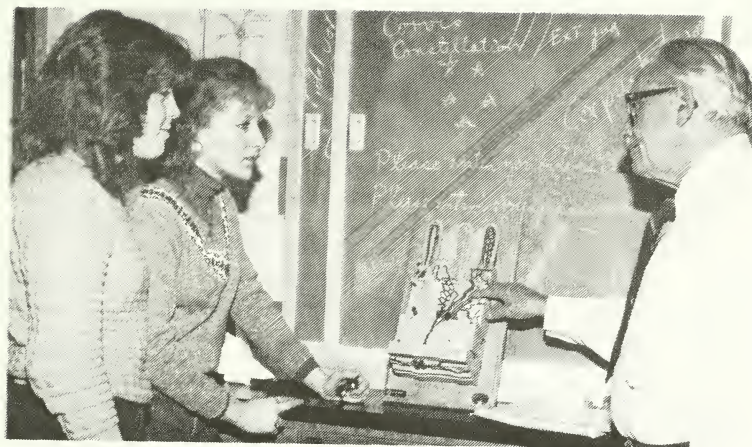
FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
EN4401	English Composition I	3	EN4402	English Composition II	3
PS1101	Introduction to Psychology	3	SO3356	Psychosocial Aspects of Aging	3
PS6551	Adulthood & Aging	3	PS1354	Human Relations	3
	History/Government Elective	3		History/Government Elective	3
	Humanities Elective	3		Humanities Elective	3
		15			15
THIRD SEMESTER		CREDITS	FOURTH SEMESTER		CREDITS
	Natural Science Elective	4		Natural Science Elective	4
GR6551	Practicum I	4	GR6562	Practicum II	4
GR6556	Law, Aging & Advocacy	3		Math Elective	3
	Math Elective	3		Literature Elective	3
	Literature Elective	3			14
		17			

PHYSICAL EDUCATION/RECREATION

The Liberal Arts degree concentration in Physical Education and Recreation is offered by the Department of Sport and Leisure Studies and the Liberal Arts divisions. The concentration is designed to meet individual needs and career goals in the broad fields of both recreation and physical education. There is enough built-in flexibility within the concentration to allow students an opportunity to explore the various career alternatives within the whole range of leisure services. Students will also have an opportunity to transfer to Leisure Service programs at the baccalaureate level.

REQUIREMENTS	CREDITS
PE2001 Introduction to Physical Education.....	3
PE2016 Foundations of Health & Fitness	2
PE2293 Innovative Movement Experience.....	2
*SKILLS: Elect 2 of the following 1 or 2-credit courses	2/4
PE1027 Tennis, PE1002 Archery, PE1031 Weight Training, PE1018 Dance, PE1014 Golf, PE1004 Badminton, PE1011 Fly Fishing, PE1050 Racquetball, PE1042 Jogging, PE1008 Canoeing	
ELECTIVES: Elect 1 of the following 3-credit courses	3
FA7934 Dance Composition, PE2007 Camp Counseling, PE2002 First Aid and Safety, FA7091 Dance in Performance	

*or another appropriate skills course approved by the Department Chairperson.



COURSE CONCENTRATIONS

Students may select a special course concentration within the Liberal Arts program. Each concentration recommends a two-year sequence of study which fulfills core requirements for graduation, provides a focus for pre-major study, is transferable to a four-year baccalaureate program, and provides some career possibilities. The following course concentrations are currently available.

COMMERCIAL ART

The Liberal Arts course concentration in Commercial Art considers commercial art as a visible force in the marketplace and a part of our daily lives. Courses in the Commercial Art concentration offer practical training, an exposure to what a career in commercial art would be like, and the chance to develop a number of transferable skills. An understanding of graphic design and illustration will enrich any field of study. Previous training in drawing, painting or design is not required. Skill in these areas will be developed with applied studies in visual communication.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
EN4401	English Composition I	3	EN4402	English Composition II	3
HI9901	Western Civilization I	3	HI9902	Western Civilization II	3
FA7096	Introduction to Graphic Design	3	FA7097	Intermediate Graphic Design	3
FA7080	Color and Design	3	FA7098	Illustration	3
MK6678	Principles of Marketing	3	MK6679	Advertising	3
		15			15
THIRD SEMESTER		CREDITS	FOURTH SEMESTER		CREDITS
	Science Elective	4		Science Elective	4
	Literature Elective	3		Literature Elective	3
	Math Elective	3/4		Math Elective	3/4
	Behavioral Science Elective*	3	SO3324	Behavioral Science Elective*	3
	Art Elective**	3		Art Elective**	3
		15/16			15/16

*SO3324 Cultural Anthropology is strongly recommended.

**FA7083/FA7084 Printing and Drawing I and II or FA7051/FA7052 Introductory and Intermediate Photography or two of the following: FA7020 Introduction to Creative Arts; HU4011 Art, Math, Nature; or Phototypesetting (a Special Topics course offered at Greater Lawrence Technical School).

CREATIVE ARTS

The Liberal Arts course concentration in Creative Arts allows students to explore their interest in Dance Music, Theatre or Art. Students may select introductory and specialized courses in each of these areas. Drama, dance and musical productions are presented each year, offering an excellent opportunity for practical experience.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
EN4401	English Composition I	3	EN4402	English Composition II	3
HI9901	Western Civilization I	3	EN9902	Western Civilization II	3
FA7020	Intro to Creative Arts	3	HU4000	Introduction to Humanities	3
	Art, Dance, Music, Theatre			Art, Dance, Music, Theatre	
	Elective*	3		Elective*	3
	Math Requirement** OR			Math Requirement** OR	
	Free Elective	3		Free Elective	3
		15			15
THIRD SEMESTER		CREDITS	FOURTH SEMESTER		CREDITS
	Science Elective	4		Science Elective	4
EN8861	Western Literature Before 1600	3	EN8862	Western Literature Since 1600	3
	Behavioral Science Elective	3	SO3324	Cultural Anthropology	3
	Art, Dance, Music, Theatre			Art, Dance, Music, Theatre	
	Elective*	3		Elective*	3
	Math Requirement** OR			Math Requirement** OR	
	Free Elective	3		Free Elective	3
		16			16

*Students must take at least three credits in each of the following areas:

DANCE: Dance Composition; Dance in Performance; Modern Dance I, II, III and IV; Ballet I, II, III and IV; Jazz I and II

THEATRE: Introduction to Theatre, Acting, Mime, History of Theatre

VISUAL ARTS: Introduction to Art, Painting, Drawing

MUSIC: Introduction to Music, History of Jazz, Music Reading

**Math requirement or free elective as follows: Math requirement includes any (MA) math course except MA0500 Mathematics for Early Childhood Education, MA0501 Developmental Mathematics, MA0020 Basic Mathematics, MA5613 Math of Finance, MA5641 Math of Business, MA5671 Business Statistics, MA0030 Basic Algebra.

Free Electives: includes any course offered by the departments of English, Foreign Languages/Philosophy/Religion, Creative Arts, History and Government, Behavioral Sciences, Mathematics, Natural Sciences and Business. Students may also take up to 3 credits in the Department of Sport and Leisure Studies and/or up to 6 credits in courses offered by any other department in the college.

DANCE

The Liberal Arts course concentration in Dance exists to foster a love of movement, to provide greater awareness of one's body, to encourage integration and harmony of mind and potential as experienced in movement, and to provide the background in technique necessary to realize these goals. "As long as man is responsive to the forces of life and the universe, there will be dance." (Margaret H'Doubler)

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
EN4401	English Composition I	3	EN4402	English Composition II	3
HI9901	Western Civilization I	3	EN9902	Western Civilization II	3
FA7020	Introduction to Creative Arts	3		Dance Elective*	3
	Dance Elective*	3		Math Requirement**	3
	Math Requirement** OR			Free Elective	3
	Free Elective	3			15
		15			
THIRD SEMESTER		CREDITS	FOURTH SEMESTER		CREDITS
EN8861	Western Literature Before 1600	3	EN8862	Western Literature Since 1600	3
	Behavioral Science Elective	3	SO3324	Cultural Anthropology	3
	Dance Elective*	3		Dance Elective*	3
	Math Requirement* OR			Math Requirement** OR	
	Free Elective	3		Free Elective	3
	Science Elective***	4		Science Elective***	4
		16			16

*Students must take at least 15 credits in dance: Dance Composition; Dance in Performance; Pedagogy; Repertory; Modern Dance I, II, III, IV; Ballet I, II, III, IV; Jazz I, II. Directed Studies courses are available in Dance History and Ballet in Performance.

**Math requirement: select any MA math course except the following: MA0500 Mathematics for Early Childhood Education, MA0501 Developmental Mathematics, MA0020 Basic Mathematics, MA5613 Math of Finance, MA5641 Math of Business; MA5671 Business Statistics, MA0030 Basic Algebra.

Free electives: any course offered by the departments of English; Foreign Languages, Philosophy and Religion; Creative Arts; History and Government; Behavioral Sciences; Mathematics; Natural Sciences and Business. Students may also take up to 3 credits in the Department of Sport and Leisure Studies and/or up to 6 credits in courses offered by any other department in the college.

***Recommended: Anatomy and Physiology I and II.

STILL POINT: The high point of the Dance program is the annual spring dance performance, Still Point. This production combines many areas of dance: modern, jazz, ballet, African.

DANCE CLUB: The Dance Club exists for the purpose of providing physical and creative expression and an awareness of the joy of movement. It encourages participation by faculty and alumni as well as students. Dance Club members also participate in Still Point. The Still Point Dancers, the dance company of the college, are part of the Dance Club. They are a touring company and perform in schools and colleges and participate in various community and college activities.

CAREERS IN DANCE

Teaching: private, early childhood, elementary, secondary, college.

Choreography: theatre, general production work.

Dance Therapy: day care centers, family treatment centers, correctional facilities, drug addiction centers, halfway houses, out-patient clinics, special schools and camps for exceptional children, nursing homes, institutions for the mentally retarded, psychiatric facilities.

Recording Dance: film and tape, general notation.

Production: stage manager, lighting, costuming, audio, makeup, scenic design, publicity.

HISTORY

The Liberal Arts course concentration in History offers guidance in course selection to students interested in pursuing a bachelor's degree in History. Although this sequence takes into account prerequisites in the History departments in many New England colleges, it is only a suggested course sequence. Students interested in a History major should consult with an advisor concerning appropriate history electives.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
EN4401	English Composition I	3	EN4402	English Composition II	3
	Math Elective	3		Math Elective	3
	Behavioral Science Elective	3		Behavioral Science Elective	3
	Foreign Language Elective	3		Foreign Language Elective	3
HI9913	U. S. History I OR		HI9914	U. S. History II OR	
HI9901	Western Civilization I	3	HI9902	Western Civilization II	3
		15			15
THIRD SEMESTER		CREDITS	FOURTH SEMESTER		CREDITS
	Literature Elective	3		Literature Elective	3
	Science Elective	4		Science Elective	4
EC3322	Micro Economics	3	EC3323	Macro Economics	3
	History Electives	6		History Electives	6
		16			16

HISTORY ELECTIVES: Select from various history/government electives such as HI9962 Women's History, HI9916 Recent U.S. History, HI9917 The Family in History, HI9958 History of the Soviet Union, HI9956 American Foreign Policy, GV3313 The Federal Government or GV3314 State and Local Government.

JOURNALISM/BROADCASTING

The Liberal Arts course concentration in Journalism/Broadcasting provides career training for students who would like to specialize in communications for newspapers or magazines, radio and television, public relations or freelance writing.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
EN4401	English Composition I	3	EN4402	English Composition II	3
EN0101	Journalism I	3	EN0102	Journalism II	3
EN3333	Broadcast/Reporting & Announcing	3		Fine Arts Elective*	3
	History/Government/ Political Science Elective	3	PS1101	Introduction to Psychology	3
	Fine Arts Elective*	3		History/Government/ Political Science Elective	3
		15			15
THIRD SEMESTER		CREDITS	FOURTH SEMESTER		CREDITS
EN3334	Television Production I	3		Literature Elective**	3
	Literature Elective**	3	EN3335	Television Production II	3
SO3321	Introduction to Sociology OR			Math Elective	3
SO3324	Cultural Anthropology	3		Natural Science Elective	4
	Natural Science Elective	4		Elective***	3
	Math Elective	3			16
		16			

*Introductory and Intermediate Photography or Introductory and Intermediate Graphic Design are recommended for Fine Arts Electives.

**Arts of the Movies is recommended as the third semester Literature Elective; 20th Century Women in Film is recommended as the fourth Semester Literature Elective.

***Students may elect to take EN0103 Journalism Practicum, available for second-year Journalism concentration students.

REMINDER: A total of 6 credits in literature and 8 credits in science are required.

MUSIC

The Liberal Arts course concentration in Music offers guidance in course selection to students interested in preparing for careers in music, either those seeking professional work or those seeking transfer to four-year colleges. Concentration students are prepared to transfer to college curriculums and/or pursue professional work in the jazz, pop and classical areas of music. Students enrolled in the Music concentration should plan on taking at least 12 credits but no more than 24 credits in music courses. They should select at least one course from Category 1, two courses from Category II and one course from Category III.

CATEGORY I - LISTENING & MUSIC APPRECIATION: MU7091 Introduction to Music, MU7092 History of Jazz, MU7093 Twentieth Century Music

CATEGORY II - THEORIES & SKILLS: MU7090 Music Reading, Notation & Ear Training; MU7094 Jazz and Rock Theory; MU7100 Harmony

CATEGORY III - PERFORMANCE & APPLIED SKILLS: MU7097 Performance Ensemble I, MU7098 Performance Ensemble II, MU7101 Chorus I (2 credits), MU7102 Chorus II (2 credits)

SPECIAL TOPICS: Special topics in Music, one to four credits; e.g. composition, research, performance, conducting and others.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
	Music Elective	3		Music Elective	3
EN4401	English Composition I	3	EN4402	English Composition II	3
HA7020	Introduction to Creative Arts	3	HU4000	Introduction to Humanities	3
	Math Requirement* OR			Math Requirement* OR	
	Free Elective	3		Free Elective	3
HI9901	Western Civilization I	3	HI9902	Western Civilization II	3
		15			15
THIRD SEMESTER		CREDITS	FOURTH SEMESTER		CREDITS
	Music Elective	3		Music Elective	3
EN8861	Western Literature Before 1600	3	EN8862	Western Literature Since 1600	3
	Behavioral Science Elective	3	SO3324	Cultural Anthropology	3
	Math Requirement* OR			Math Requirement* OR	
	Free Elective	3		Free Elective	3
	Science Elective	4		Science Elective	4
		16			16

*See statements regarding Math Requirement and Free Electives in the general information section on the Liberal Arts Program.

CAREERS IN MUSIC: Careers are available in performance, arranging, composition, music education (private, early childhood through college), music therapy, disc jockey, music criticism, music retailing, retailing of musical instruments, music librarian, performance management and arts promotion.

POLITICAL SCIENCE

The Liberal Arts course concentration in Political Science offers guidance in course selection to students interested in pursuing a bachelor's degree in Political Science, Government or Public Administration. Although this sequence takes into account prerequisites in these departments in many New England colleges, it is only a suggested course sequence. Students interested in further study in these areas should consult with an advisor concerning appropriate electives.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDIT
EN4401	English Composition I	3	EN4402	English Composition II	3
	Math Elective	3	MA5673	Quantitative Methods	3
	Behavioral Science Elective	3		Behavioral Science Elective	3
GV3312	Introduction to Political Science	3	GV3313	Federal Government	3
	Foreign Language Elective	3		Foreign Language Elective	3
		15			15

THIRD SEMESTER		CREDITS	FOURTH SEMESTER		CREDITS
	Literature Elective	3		Literature Elective	3
	Science Elective	4		Science Elective	4
EC3322	Micro Economics	3	EC3323	Macro Economics	3
	Government/History Electives	6		Government/History Electives	6
		16			16

Government/History Electives: U. S. History I and II strongly recommended and other government courses such as Introduction to Law, Constitutional Law, Civil Rights, Minority Groups in America, Recent U. S. History.

SCIENCE

The four Liberal Arts course concentrations in Science are designed as suggested curricula for students who decide early in their time at Northern Essex that they would like to earn a bachelor's degree in science. Although these sequences have taken into account prerequisites in science departments at New England universities, they are only suggested course sequences. With the advice of a faculty advisor, and even with a decision in the student's second year to become a science major, other course sequences (with some concentration in the sciences) may serve the same purposes for the Liberal Arts transfer student.

SCIENCE: Biology/Pre-Veterinary/Pre-Medical

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
EN4401	English Composition I	3	EN4402	English Composition II	3
MA5621	Algebra & Trigonometry	4	MA5690	Calculus I	4
BI5515	Principles of Biology	4	BI5511	Intro. Biology: Botany OR	
PI5503	Introductory Physics I	4	BI5514	Intro. Biology: Zoology	4
	Behavioral Science Elective	3	PI5504	Introductory Physics II	4
		18		History Elective	3
					18

THIRD SEMESTER		CREDITS	FOURTH SEMESTER		CREDITS
CH5501	General Chemistry I	4	CH5502	General Chemistry II	4
MA5692	Calculus II	4		Biology Elective* OR	
	Literature Elective	3	CH5507	Organic Chemistry	4
	Language Elective	3		Literature Elective	3
	Behavioral Science Elective	3		Language Elective	3
		17		History Elective	3
					17

*Biology Electives: BI5553 Microbiology, BI5517 Aquatic Biology, BI5511 Introductory Biology: Botany, BI5514 Introductory Biology: Zoology.

SCIENCE: Chemistry/Chemical Engineering

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
EN4401	English Composition I	3	EN4402	English Composition II	3
MA5621	Algebra & Trigonometry	4	MA5690	Calculus I	4
PI5503	Introductory Physics I	4	PI5504	Introductory Physics II	4
CH5503	Introductory Chemistry I	4	CH5504	Introductory Chemistry II	4
	Behavioral Science Elective	3		History Elective	3
		18			18

THIRD SEMESTER		CREDITS	FOURTH SEMESTER		CREDITS
CH5501	General Chemistry I	4	CH5502	General Chemistry II	4
MA5692	Calculus II	4		Science Elective	4
	Literature Elective	3		Literature Elective	3
	Behavioral Science Elective	3		History Elective	3
	Language Elective (German)	3		Language Elective (German)	3
		17			17

SCIENCE: Earth Science**FIRST SEMESTER**

	CREDITS
EN4401 English Composition I	3
MA5621 Algebra & Trigonometry	4
PH5503 Introductory Physics I	4
CH5503 Introductory Chemistry I	4
Behavioral Science Elective	3
	<hr/> 18

THIRD SEMESTER

	CREDITS
SS5502 Physical Geology	4
MA5692 Calculus II	4
Behavioral Science Elective	3
Literature Elective	3
Elective: Language/Philosophy/ Religion/Fine Arts	3
	<hr/> 17

SECOND SEMESTER

	CREDITS
EN4402 English Composition II	3
MA5690 Calculus I	4
PH5504 Introductory Physics II	4
CH5504 Introductory Chemistry II	4
History Elective	3
	<hr/> 18

FOURTH SEMESTER

	CREDITS
ES5501 Meteorology	4
ES5504 Mineralogy	4
Literature Elective	3
History Elective	3
Elective: Language/Philosophy/ Religion/Fine Arts	3
	<hr/> 17

SCIENCE: Physics**FIRST SEMESTER**

	CREDITS
EN4401 English Composition I	3
MA5621 Algebra & Trigonometry	4
PH5503 Introductory Physics I	4
Free Elective	3
Behavioral Science Elective	3
	<hr/> 17

THIRD SEMESTER

	CREDITS
CH5501 General Chemistry I	4
MA5692 Calculus II	4
PH5501 General Physics I	4
Literature Elective	3
Language Elective	3
	<hr/> 18

SECOND SEMESTER

	CREDITS
EN4402 English Composition II	3
MA5690 Calculus I	4
PH5504 Introductory Physics II	4
Free Elective	3
History Elective	3
	<hr/> 17

FOURTH SEMESTER

	CREDITS
CH5502 General Chemistry II	4
PH5502 General Physics II	4
Literature Elective	3
History Elective	3
Language Elective	3
	<hr/> 17

SOCIAL WORK

The Liberal Arts course concentration in Social Work is an introduction to the purpose, techniques and problems of social work. A guide for Liberal Arts students who wish to begin preparation for a position in public and private social work agencies and/or intend to transfer into four-year programs in social work. Suggested schedule of 61 credit hours of work required for graduation.

FIRST SEMESTER

	CREDITS
EN4401 English Composition I	3
SI1101 Introduction to Psychology	3
MA5520 Liberal Arts Math I	3
SO3321 Introduction to Sociology	3
Philosophy, Fine Arts OR Foreign Language	3
	<hr/> 15

SECOND SEMESTER

	CREDITS
EN4402 English Composition II	3
SO3335 Intro. to Social Services	3
MA5525 Liberal Arts Math II	3
Natural Science Elective	4
Philosophy, Fine Arts OR Foreign Language	3
	<hr/> 16

THIRD SEMESTER		CREDITS	FOURTH SEMESTER		CREDITS
GV3313	Federal Government	3	GV3314	State & Local Government	3
SO3333	Contemporary Social Problems	3	PS1354	Human Relations	3
PS1203	Developmental Psychology	3	SO3331	Marriage & the Family	3
	Natural Science Elective	4		Literature Elective	3
	Literature Elective	3	PS1351	Social Psychology	3
		16			15

THEATRE

The Liberal Arts course concentration in Theatre offers Several introductory courses for academic credit over a two-year period. Students need not be planning a career in theatre to benefit. Theatre study and experience is appropriate for those seriously interested professionally as well as students seeking elective credits. The communications skills theatre offers can be used effectively in all careers. Because of the size of the classes and the various curricular and extracurricular theatre activities, the student has an excellent opportunity at Northern Essex for experience. This can contribute to greater and more rapid personal growth.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
EN4401	English Composition I	3	EN4402	English Composition II	3
HI9901	Western Civilization I	3	HI9902	Western Civilization II	3
FA7029	Introduction to Creative Arts	3	HU4000	Introduction to Humanities	3
	Theatre Elective	3		Theatre Elective	3
	Math Requirement* OR			Math Requirement* OR	
	Free Elective	3		Free Elective	3
		15			15

THIRD SEMESTER		CREDITS	FOURTH SEMESTER		CREDITS
	Science Elective	4		Science Elective	4
EN8862	Western Literature Before 1600	3	EN8863	Western Literature Since 1600	3
	Behavioral Science Elective	3	SO3324	Cultural Anthropology	3
	Theatre Elective	3		Theatre Elective	3
	Math Requirement* OR			Math Requirement* OR	
	Free Elective	3		Free Elective	3
		16			16

*See statements regarding Math Requirement and Free Electives in the general information section on the Liberal Arts Program.

Theatre courses are offered on an alternating basis over a period of time. Theatre courses are: TH7765 Introduction to Theatre, TH7769 Acting, TH7775 Fundamentals of Play Production: Directing, TH7785 Mime, TH7789 Playwriting, TH7795 History of Theatre, TH7799 Rehearsal & Performance.

CAREERS IN THEATRE: The following careers are available in the performance area of theatre: playwright, director, actor, running crew (lights, sound, properties, costumes, scene changes), company manager, stage manager, road manager, musical aspects, dance aspects, dialect consultant. The following careers are available in the business area of theatre: teacher, producer, theatre manager, treasurer, theatre law, box office, house management, fund-raising, public relations, advertising, press representation, theatre publications, organization.

The following careers are available in the technical phase of theatre: technical director, scenic design, lighting design, costume design, production carpentry, production electrician, production properties, wardrobe supervisor, make-up artist, wig styling, sound design, technicians for light and sound, set construction, costume construction, television and motion picture specialists.

TOWN MANAGEMENT

The Liberal Arts course concentration in Town Management is an introduction to the function, politics and problems of managing local town governments, and a guide for students who wish to begin preparation for a position on local government and/or who intend to transfer into four-year programs in Public Administration, Government or Political Science. Suggested course schedule of 64 credit hours of work.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
EN4401	English Composition I	3	EN4402	English Composition II	3
HI9913	U.S. History I	3	HI9914	U.S. History II	3
ES5502	Physical Geology	4	EV5627	Environmental Biology	4
MA5520	Liberal Arts Math I	3		Math Elective	3
	Philosophy, Fine Arts OR			Philosophy, Fine Arts OR	
	Foreign Language*	3		Foreign Language*	3
		16			16
THIRD SEMESTER		CREDITS	FOURTH SEMESTER		CREDITS
GV3313	Federal Government	3	GV3314	State & Local Government	3
EC3322	Micro-Economics	3	EC3323	Macro-Economics	3
AC6601	Introductory Accounting I	4	CT6633	Intro. Data Processing/BASIC	4
	Literature Elective	3		Literature Elective	3
O3359	Work and Society	3		Behavioral Science Elective**	3
		16			16

*Students are strongly urged to take Conversational Spanish I and II to fill this requirement.

**Students are urged to select one of the following courses to fill this requirement: Criminology, Juvenile Delinquency, Contemporary Social Problems, Human Relations, Introduction to Psychology.

WOMEN'S STUDIES

The Liberal Arts course concentration in Women's Studies is constituted by the following six courses: HI9962 Women's History: Giving the Majority Its Past*, EN8883 Women in Literature & Life, HI9917 The Family in History*, SO3359 Women and Society, EN8884 Literature: 20th Century Women in Film, EN8882 Literature: Women Lives Recorded and Imagined.

*These two courses may be offered in alternate years.

Students interested in Women's Studies may fulfill the requirements for the concentration in Women's Studies and, at the same time, fulfill basic (core) requirements for the associate degree in Liberal Arts by electing a Women's Studies course corresponding to a specific core requirement:

L.A. REQUIREMENT IN HISTORY/GOVERNMENT (6 credits) may be fulfilled by the following Women's Studies courses: Women's History (3 credits) and The Family in History (3 credits).

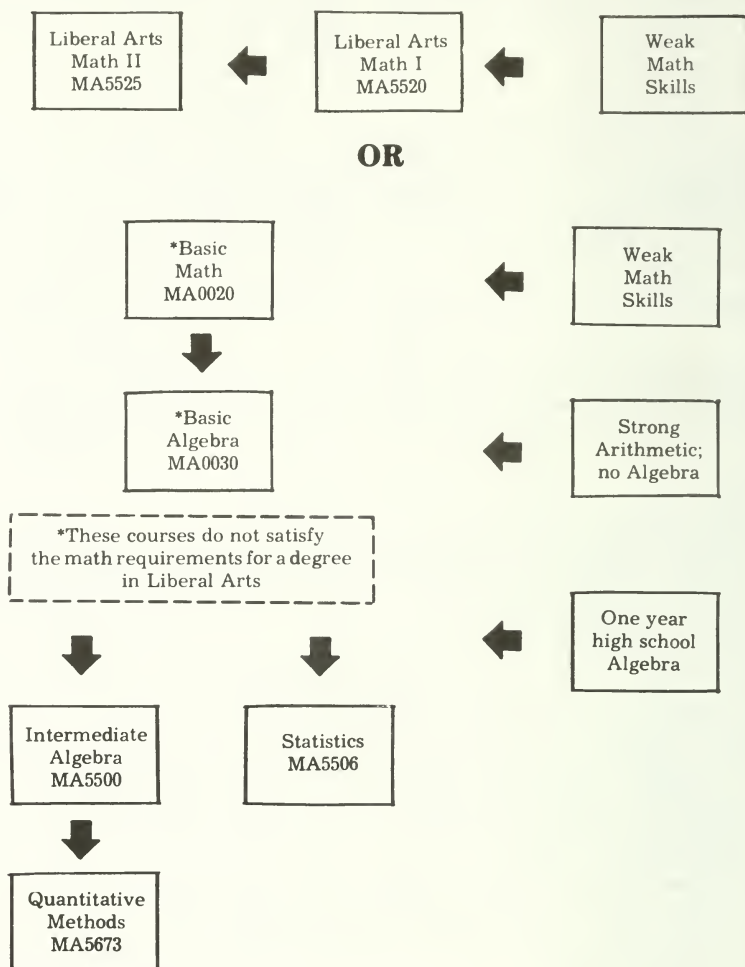
L.A. REQUIREMENT IN LITERATURE (6 credits) may be fulfilled by the following Women's Studies courses: Women in Literature & Life (3 credits), 20th Century Women in Film (3 credits), Women's Lives: Recorded and Imagined (3 credits).

L.A. REQUIREMENT IN BEHAVIORAL SCIENCE (6 credits) may be partially fulfilled by the following Women's Studies course: Women and Society (3 credits).

Any of the above courses may also be used as electives among the 16 elective credits required in the Liberal Arts associate degree program.

LIBERAL ARTS MATH SEQUENCE I

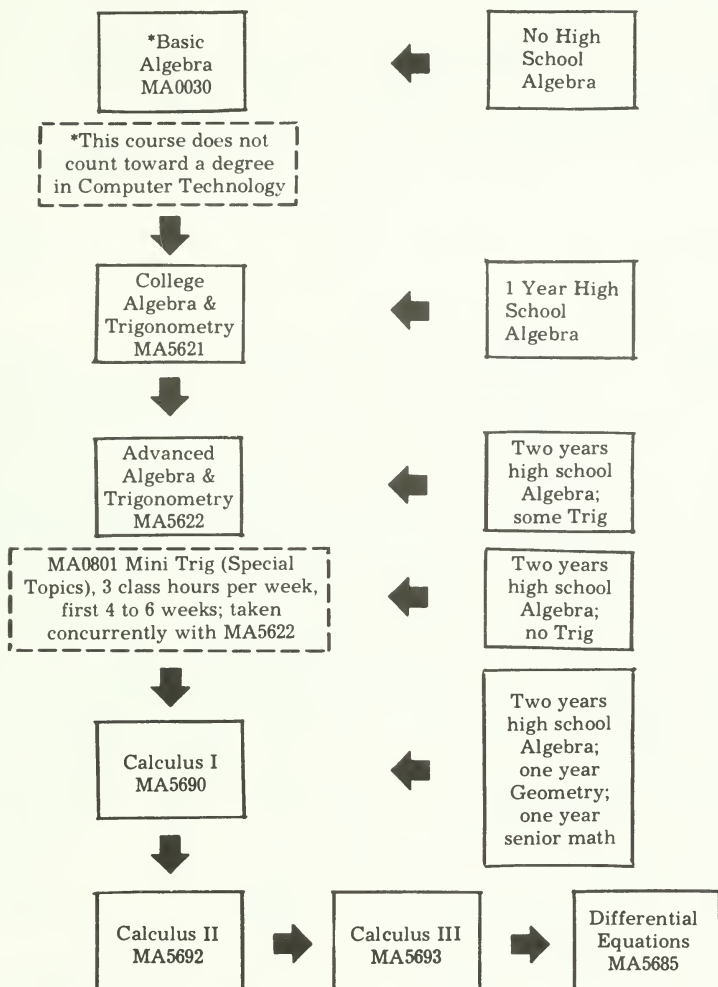
For students who wish to pursue careers in the humanities or the social sciences.



NOTE: If a mathematics course requires a prerequisite, it is recommended that the student earn a C or better in the prerequisite course before attempting the next course in the sequence.

LIBERAL ARTS MATH SEQUENCE II

For students who wish to pursue careers in science, mathematics or medicine.



NOTE: If a mathematics course requires a prerequisite, it is recommended that the student earn a C or better in the prerequisite course before attempting the next course in the sequence.

MATERIALS MANAGEMENT

The certificate program in Materials Management (currently offered in the Division of Continuing Education & Community Services only) is comprised of five courses in the specialized area of Materials Management. It is designed as a career program to provide professional proficiency for those who are currently working in the fields of Production Control and Inventory Management. Credits earned in the certificate program may be applied toward associate degree requirements in Business Management with a concentration in Materials Management. 15 credit hours of work are required for the certificate.

FIRST SEMESTER	CREDITS	SECOND SEMESTER	CREDITS
MG7703 Capacity Management	3	MG7705 Master Planning	3
MG7706 Material Requirements Planning	3	MG7702 Production Activity Control	3
	6	MG7704 Inventory Management	3
			9

NOTE: Principles of Materials Management, or its equivalent in field experience, is a prerequisite for all the courses in this program.

MEDICAL RECORD TECHNOLOGY

The associate in science degree program in Medical Record Technology provides students an opportunity to take liberal arts courses and to apply knowledge obtained in technical courses through direct application in a clinical setting located off campus. Students who wish to continue their education in a four-year institution should choose electives which will fulfill the transfer requirements of the institution they choose. Job opportunities in hospitals, extended care facilities, psychiatric facilities, nursing homes, out-patient clinics, community health centers, state and local health departments, regional medical programs and rehabilitation centers are available. The program is accredited by the American Medical Association's Committee on Allied Health Education and Accreditation in collaboration with the American Medical Record Association. Students who complete requirements for graduation are eligible to take the national accreditation examination of the American Medical Record Association. 69 credit hours of work are required for graduation.

FIRST SEMESTER	CREDITS	SECOND SEMESTER	CREDITS
EN4401 English Composition I	3	EN4402 English Composition II	3
BI5519 Anatomy & Physiology I	4	BI5520 Anatomy & Physiology II	4
MR6605 Medical Terminology I	3	MR6606 Medical Terminology II	3
MR6601 Medical Record Science I	3	MR6602 Medical Record Science II	3
HS6651 Intro. to Health Services	3	PS1101 Introduction to Psychology OR	
Typewriting I*		SO3321 Introduction to Sociology	3
	16		16
THIRD SEMESTER	CREDITS	FOURTH SEMESTER	CREDITS
MR6651 Medical Record Science III	3	MR6653 Medical Record Science IV	2
MR6667 Directed Practice I	4	MR6668 Directed Practice II	3
Liberal Arts Elective	3	Social Science Elective	3
CT6633 Intro. Data Processing/BASIC	4	MG6666 Principles of Management	3
MR6661 Transcription I	3	BI5530 Fundamentals of Disease Process	3
	17	MR6602 Transcription II	3
		Elective	3
			20

*Typewriting **MUST** be taken before the third semester unless students are able to type 45 wpm with 5 errors or less. Students who must take a typing course are exempt from the free elective listed in the fourth semester.

NOTE: Students must provide their own transportation to and from practicum locations and field trips.

MALPRACTICE INSURANCE: All Medical Record students are required to carry malpractice insurance. The premium is to be paid prior to the beginning of classes. Students may not participate in the directed practice component of the program without malpractice insurance.

HEALTH: Medical Record students are required to complete a health evaluation prior to entering directed practice in the second year. The college's Student Health Services clinic will designate when the information is due at the college.

MEDICAL TERMINOLOGY & TRANSCRIBING

The one-year certificate program in Medical Terminology & Transcribing is designed for persons interested in working in a hospital medical record department, physicians office, clinic, laboratory, neighborhood health center, medical insurance office or other allied health institution. The program is of special interest to persons with some previous office training who wish to enhance job opportunities. It is an excellent choice for someone wishing to specialize in order to work in a medical or paramedical setting. Homemakers interested in returning to the job market would find the flexible hours available in these jobs attractive. All courses in the program may be transferred to the Medical Record Technology or Executive Secretarial: Medical Option associate degree program. 24 to 25 credit hours of work are required for the certificate.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
	Typewriting II or III*	3		Typewriting III or IV*	3
MR6605	Medical Terminology I**	3	MR6661	Medical Transcription I***	3
MR6606	Medical Terminology II**	3	MR6662	Medical Transcription II***	3
	Liberal Arts Elective	3/4	SL6673	Word Processing I	3
		12/13			12

*Typing rate of 30 WPM is required for admission; choose initial typing course according to level of ability.

**Medical Terminology I, first eight weeks; Medical Terminology II, second eight weeks.

***Medical Transcription I, first eight weeks; Medical Transcription II, second eight weeks.

MENTAL HEALTH TECHNOLOGY

The associate in science degree program in Mental Health Technology instructs students in the theory and skills needed to recognize mental health problems in individuals, in groups and in the community; to understand the structure of mental health facilities, to understand current modalities of treatment in mental health, and to assist with physical rehabilitative therapies. Carefully supervised clinical experiences are part of the program and prepare students for middle-level professional positions in various types of mental health facilities. 63 to 64 credit hours of work are required for graduation. **PROGRAM PREREQUISITE:** Letters of reference and a personal interview with the Coordinator are required after the initial admission process has been completed.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
EN4401	English Composition I	3	EN4402	English Composition II	3
PS1101	Introduction to Psychology	3		Elective	3
MH2111	Intro. to Mental Health	3		Natural Science Elective	3/4
BI5510	Human Biology	3	MH2155	Modalities of Treatment	3
	Elective	3	MH2134	Mental Health Practicum I	4
MH2133	Observation & Recording of Mental Health Programs	1			16/17
		16			

THIRD SEMESTER	CREDITS	FOURTH SEMESTER	CREDITS
PS1751 Abnormal Psychology	3	MH2166 Seminar in Mental Health	3
MH2143 Mental Health Practicum II	4	MH2144 Mental Health Practicum III	4
PE2293 Innovative Movement Experiences: Childhood to Adult	2	FA7012 Introduction to the Creative Experience	3
PE2002 First Aid & Safety	3	Sociology Elective	3
MH2147 Group Dynamics	3	Elective	3
	15		16

NOTE: Suggested electives for the Commonwealth Transfer Compact are three mathematics credits and six credits in humanities/fine arts.

All courses with an "MH" prefix are restricted to students enrolled in the Mental Health Technology, Community Residence Manager or Alcohol/Drug Abuse Counseling programs. Other students may take MH prefix courses, depending upon class size, with written permission of the coordinator.

09/1985

MENTAL HEALTH TECHNOLOGY:

Community Residence Manager

The one-year certificate program in Mental Health Technology: Community Residence Manager provides students with the theory and skills needed to provide direct client services such as assisting residents to master activity of daily living skills; group and individual counseling; money management techniques for residents; community referral skills; and an understanding of the problems of the mentally retarded and mentally ill as they seek to enter into the mainstream of our society after years of institutionalization. Carefully supervised clinical experiences in residential services are an integral part of the program and prepare students for positions as community residence managers. Graduates of this program have the opportunity to continue working toward an associate's degree in Mental Health Technology. 33 credit hours of work are required for the certificate.

FIRST SEMESTER	CREDITS	SECOND SEMESTER	CREDITS
EN4401 English Composition I	3	EN4402 English Composition II	3
MH2111 Intro. to Mental Health	3	PS1101 Introduction to Psychology	3
PE2002 First Aid and Safety	3	MH2156 Behavior Management Principles and Techniques	3
MH2133 Observation & Recording of Mental Health Programs	1	MA5613 Mathematics of Finance	3
MH2147 Group Dynamics	3	MH2146 Mental Health Practicum in Residential Services II	4
MH2145 Mental Health Practicum in Residential Services I	4		16
	17		

NOTE: All courses with an "MH" prefix are restricted to students enrolled in the Mental Health Technology, Community Residence Manager or Alcohol/Drug Abuse Counseling programs. Other students may take MH prefix courses, depending upon class size, with written permission of the coordinator.

OFFICE MANAGEMENT

The associate in science degree program in Office Management is designed to prepare students for responsible careers in the office and business fields. The work of the office manager provides midmanagement careers in fields such as general and personnel administration, finance, law, insurance, banking, government and other areas of the professional and business world. This program is primarily intended for individuals with substantial experience in some occupation in the field who wish to prepare themselves for promotional opportunities at the supervisory level and for those individuals already possessing high-level business skills in shorthand and typewriting upon matriculation. 60 to 63 credit hours of work are required for graduation.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
EN4401	English Composition I	3	EN4402	English Composition II	3
AC6691	Elements of Accounting I OR		AC6692	Elements of Accounting II OR	
AC6601	Introductory Accounting I	3/4	AC6602	Introductory Accounting II	3/4
TW6621	Typewriting I OR		SL6671	Information Processing Concepts	3
	Business Elective	3	PS1101	Introduction to Psychology	3
SL6682	Managerial Communications	3	TW6622	Typewriting II OR	
	Social Science Elective	3		Business Elective	3
		15/16			15/16
THIRD SEMESTER		CREDITS	FOURTH SEMESTER		CREDITS
SL6661	Office Administration	3	SL6665	Essentials of Office Management	3
TW6631	Typewriting III	3	LW6651	Business Law I	3
SL6660	Word Processing I	3		Natural Science Elective	3/4
MG6690	Management Information Systems	3		Business Elective	3
	Liberal Arts Elective	3		Liberal Arts Elective	3
		15			15/16

OFFICE SKILLS

The one-year certificate program in Office Skills is designed as a short, intensive career program to give students the opportunity to acquire office skills necessary when seeking profitable employment. The program includes a basic core of required courses supplemented by a variety of electives designed to satisfy individual needs. All courses in the program may be transferred toward associate degree programs in Executive Secretarial or Office Management in the Department of Office & Business Education. 24 to 26 credit hours of work are required for the certificate.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
EN4401	English Composition I	3		Typewriting II, III or IV*	3
	Typewriting I, II or III*	3		Office Skills Elective**	6/7
AC6691	Elements of Accounting I	3		Liberal Arts Elective	3/4
SL6661	Office Administration	3			12/14
		12			

*Choose appropriate course after consultation with advisor.

**Choose two of the following office skills electives:

CO4401	Cooperative Education I (40 hours work experience)	3
SL6665	Essentials of Office Management	3
SL6673	Word Processing I	3
SK6653	Machine Transcription	3
CT6633	Introduction to Data Processing with BASIC	4
SL6671	Information Processing Concepts	3
MG6666	Principles of Management	3
AC6692	Elements of Accounting II	3
SH6621	Principles of Shorthand	3
SH6622	Intermediate Shorthand	3

PARALEGAL STUDIES

The associate in arts degree program in Paralegal Studies is designed to prepare students to seek careers as legal assistants in law offices and related social and public service agencies, and to offer Liberal Arts students exploratory courses in the field of law and related disciplines. The program is designed primarily as a Liberal Arts program with a career concentration in the paralegal area. 61 to 63 credit hours of work are required for graduation.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
EN4401	English Composition I	3	EN4402	English Composition II	3
	Humanities Elective	3		Natural Science Elective	4
SO3333	Contemporary Social Problems	3	GV3301	Constitutional Law	3
GV3300	Introduction to Law	3		Math Elective	3/4
LW6660	Legal Research and Drafting	3	LW6661	Litigation	3
		15			16/17
THIRD SEMESTER		CREDITS	FOURTH SEMESTER		CREDITS
GV3315	Civil Rights and Liberties	3		Humanities Elective	3
LW6662	Wills, Estates and Trusts	3	LW6653	Real Estate Law	3
LW6663	Corporate Law	3	LW6664	Domestic Law	3
	Humanities Elective	3		Elective*	3
	Math Elective	3/4		Elective*	3
		15/16			15

*LW6665 Taxation, a course offered through the Division of Continuing Education & Community Services, is highly recommended as an elective for students interested in the fields of Corporations and Wills, Estates and Trusts. In addition, students should seriously consider a cooperative education course as an elective.

PARALEGAL

The certificate program in Paralegal is intended for students with previous college-level experience. It is principally designed with a career orientation; however, a transfer option is available. Certificate recipients must complete 60 credit hours of work for the certificate with the following distribution: 30 credits in general education; 18 credits in law-specialty (LW prefix) courses; 12 credits in elective courses. 24 credit hours of work must be completed at Northern Essex Community College. **PROGRAM PREREQUISITE:** Satisfactory completion of 36 college credits in general education and/or law related courses, and a personal interview.

REQUIRED COURSES		CREDITS	ELECTIVES (select 4)		CREDITS
GV3300	Introduction to Law	3	LW6663	Corporate Law	3
LW6660	Legal Research and Drafting	3	LW6662	Wills, Estates and Trusts	3
LW6661	Litigation	3	LW6653	Real Estate Law	3
GV3301	Constitutional Law	3	LW6664	Domestic Law	3
		12	LW6665	Taxation	3
					12

NOTE: Specific LW courses are offered only during specific semesters. In addition, LW6665 Taxation is currently offered through the Division of Continuing Education & Community Services only. The Taxation course is important for students interested in Wills, Estates and Trusts, and Corporations fields.

PRACTICAL NURSING

The ten-month certificate program in Practical Nursing is designed to provide the student with the theory and skills needed to function as a competent entry level graduate practical nurse. The curriculum conforms to the guidelines established by the Massachusetts Board of Registration in Nursing. The program is 40 weeks in length, exclusive of vacations, and divided into three semesters. Third semester courses are offered during the summer months. Classes are held at Greater Lawrence Technical School, Andover, MA and at the college's Haverhill campus. 41 credit hours of work are required for the certificate. **PROGRAM PREREQUISITES:** High school diploma or equivalent; pre-entrance examination for practical nursing (scores of 50 percentile or above are preferred in all areas); personal interview.

FALL SEMESTER		CREDITS	SPRING SEMESTER		CREDITS
PN0101	Practical Nursing I	10	PN0201	Practical Nursing II	10
SC5503	Integrated Science I	3	SC5504	Integrated Science II	3
PS1101	Introduction to Psychology	3	PS1203	Developmental Psychology	3
		16			16
SUMMER SEMESTER		CREDITS			
PN0301	Practical Nursing III	8			
PN0310	Vocational Trends in Practical Nursing	1			
		9			

THE CURRICULUM:

Sequence of Courses: The Practical Nursing curriculum has been structured in a special sequence. Students are required to follow this sequence of courses throughout the entire three semesters of the Practical Nursing program. Students are also required to complete successfully all courses in each semester before proceeding to the next semester.

Grading: The final grade in Practical Nursing courses is based on theory and on performance in the clinical laboratory. A failure in either area constitutes failure for the course. Students must maintain a 2.0 in Practical Nursing courses to proceed to the next semester.

NLN Exams: Standardized National League for Nursing examinations are required as an integral aspect of the curriculum for graduation.

Travel: Students are responsible for their own transportation to and from clinical agencies. Selected clinical experiences may be offered during the evening hours. Students must be prepared for these alternately scheduled hours. Students may request experience in a specific clinical agency; however, final decision regarding the placement of students rests with the Practical Nursing faculty. **NOTE:** on occasion, conferences may be scheduled at the school during clinical hours, requiring students to return to the school from the clinical agency.

Malpractice Insurance: All Practical Nursing students are required to carry malpractice insurance. The fee is paid prior to the beginning of classes. Students may not participate in the Practical Nursing program without malpractice insurance coverage.

Health: Practical Nursing students are required to complete a health evaluation prior to beginning the Practical Nursing program. The college's Student Health Service clinic will designate when this information is due at the college.

C.P.R. Certification: All Practical Nursing students are required to be certified in Basic Life Support (C.P.R.) prior to their first clinical assignment in the Spring semester. This may be accomplished by participating in C.P.R. instruction offered by the American Heart Association, the American Red Cross or local hospitals.

RADIOLOGIC TECHNOLOGY

The associate in science degree program in Radiologic Technology interconnects closely all of the technical studies in the program with clinical experiences - you put your classroom-learned techniques to work at once under supervision. You'll be ready to take the national board examination sponsored by the American Registry of Radiological Technologists when you graduate. The successful completion of this exam qualifies you to be employed as a registered radiologic technologist. In order to progress in the program a grade of C or better is required in each Radiologic Technology course. 70 credit hours of work are required for graduation.

PROGRAM PREREQUISITE: Two science courses (one must be in Biology, Anatomy & Physiology, Chemistry or Physics); and two math courses (one must be Algebra).

SUMMER SESSION* CREDITS

RT6503	Intro. to Radiologic Technology	3
		3

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
EN4401	English Composition I	3	EN4402	English Composition II	3
BI5519	Anatomy & Physiology I	4	BI5520	Anatomy & Physiology II	4
PL6511	Radiologic Science I	3	PL6512	Radiologic Science II	3
RT6519	Radiologic Technology I	4	RT6529	Radiologic Technology II	4
RT6515	Clinical Practicum I	2	RT6525	Clinical Practicum II	2
		16		Mathematics Elective	3
					19

SUMMER SESSION** CREDITS

RT6523	Radiologic Internship	2
		2

THIRD SEMESTER		CREDITS	FOURTH SEMESTER		CREDITS
RT6531	Radiologic Technology III	3	RT6541	Computers in Radiography	3
RT6533	Advanced Radiographic Positioning	3	RT6543	Disease & Diagnosis	3
RT6539	Special Radiology Procedures	3	RT6549	Radiobiology	3
RT6535	Clinical Practicum III	3	RT6545	Clinical Practicum IV	3
	Liberal Arts Elective	3		Behavioral Science Elective	3
		15			15

*Eight weeks from July 1 to August 30 of the summer prior to the first semester of work in this program, each student must complete RT6503 Introduction to Radiologic Technology as a three-credit orientation course. This will also include a clinical internship at your affiliate hospital.

**Ten week session.

CLINICAL EXPERIENCE: This program requires successful completion of a clinical experience at one of the college's affiliate hospitals. This clinical experience is spread out over a 24-month period concurrent with the four-semester curriculum.

MALPRACTICE INSURANCE: All Radiologic Technology students are required to carry malpractice insurance. The premium is to be paid prior to the beginning of classes. Students may not participate in the Radiologic Technology program without malpractice insurance coverage.

HEALTH: Radiologic Technology students are required to complete a health evaluation prior to beginning the Radiologic Technology program. The college's Student Health Services clinic will designate when this information is due at the college.



REGISTERED NURSING DAY/EVENING/12-MONTH OPTIONS

The associate in science degree program in Registered Nursing at Northern Essex is a comprehensive, demanding and rewarding program which requires a strong commitment from students to complete the course of study. 70 credit hours of work, 37 nursing credits and 33 general education credits, are required for graduation. Students may complete the program in a twelve-month, two-year or four-year time frame. It is possible for students to fulfill the general education requirements in either the Day Division or the Division of Continuing Education & Community Services. The Registered Nursing Program requires that all students be C.P.R. Certified (Basic Life Support) prior to participation in patient care assignments in hospital clinical areas. Students must make every effort to become certified prior to admission to the Registered Nursing Program, but certification must be obtained by October 1. This may be accomplished by participating in C.P.R. instruction offered by the American Heart Association, the American Red Cross or local hospitals. It is also expected that students maintain certification throughout their educational program in Registered Nursing. Graduates are prepared to write the State Board Examination for licensure as a Registered Nurse. This program is fully approved by the Massachusetts Board of Registration in Nursing and is accredited by the National League for Nursing. **PROGRAM PREREQUISITES:** 4 years of high school English; 2 years of science (one must be a laboratory course in chemistry); 2 years of mathematics (at least one year of algebra); high school diploma or equivalency certificate.

THE CURRICULUM:

Sequence of Courses: Any deviation from the planned schedule can be made only with written permission from the Nursing Program Administrator. It is the responsibility of the student to be knowledgeable regarding when courses are offered and plan accordingly.

Grading: The final grade in a Nursing course is based on theory and performance in the clinical laboratory. A failure in either area constitutes failure for the course. Students must maintain a C in Nursing courses to proceed to the next semester.

Travel: Students are responsible for their own transportation to and from clinical agencies. Clinical laboratory experience is scheduled weekly and may include day and evening clinical experiences. Students must be prepared for these alternately scheduled hours. Students may request experience in a specific clinical agency; however, final decision regarding the placement of students rests with the Nursing faculty. **NOTE:** on occasion, conferences may be scheduled at the college during clinical hours, requiring students to return to the college from the clinical agency.

Malpractice Insurance: All Nursing students are required to carry malpractice insurance. The premium is to be paid at registration in the Fall of each year.

Health: Nursing students are required to complete a health evaluation prior to beginning the Nursing program. The college's Student Health Service clinic will designate when this information is due at the college.

N.L.N. Exams: Standardized National League for Nursing examinations are required as an integral aspect of the curriculum for graduation.

NURSING CURRICULUM - DAY OPTION:

FRESHMAN YEAR

FALL SEMESTER

	CREDITS
NS6603 Nursing I	8
BI5519 Anatomy & Physiology I	4
EN4401 English Composition I	3
PS1101 Introduction to Psychology	3
	<hr/> 18

PREREQUISITES: Nursing I must be completed with a grade of C or better. BI5519, EN4401 and PS1101 must be taken prior to or concurrent with Nursing I.

SPRING SEMESTER

	CREDITS
NS6604 Nursing II	8
BI5520 Anatomy & Physiology II	4
EN4402 English Composition II	3
PS1203 Developmental Psychology	3
	<hr/> 18

PREREQUISITES: Nursing II must be completed with a grade of C or better. Nursing I must be taken prior to Nursing II. BI5520, EN4402 and PS1203 must be taken prior to or concurrent with Nursing II.

SOPHOMORE YEAR:

FALL SEMESTER

	CREDITS
NS6653 Nursing III	8
SO3321 Introduction to Sociology	3
BI5553 Microbiology	4
Humanities Elective*	3
	<hr/> 18

PREREQUISITES: Nursing III must be completed with a grade of C or better. Nursing II must be taken prior to Nursing III. SO3321, BI5553 and the Humanities Elective must be taken prior to or concurrent with Nursing III.

SPRING SEMESTER

	CREDITS
NS6654 Nursing IV	10
NS6682 Contemporary Issues and Practices in Nursing	3
Social Science Elective**	3
	<hr/> 16

PREREQUISITES: Nursing IV and Contemporary Issues and Practices in Nursing must be completed with a grade of C or better. Nursing III must be completed prior to Nursing IV. NS6682 must be taken concurrent with Nursing IV.

*Humanities elective to be chosen from courses offered by the departments of Creative Arts and/or English and/or Foreign Languages, Philosophy & Religion.

**Social science elective to be chosen from courses offered by the departments of Behavioral Sciences and/or History & Government.

NURSING CURRICULUM - 12-MONTH OPTION:

The 12-Month Option of the Registered Nursing Program is an intensive accelerated opportunity for the Licensed Practical Nurse to advance his/her career. 8 credits for previous nursing education are granted to those who successfully complete the college's Credit for Life Learning Exam for Nursing I. **PROGRAM PREREQUISITES:** 12-Month Option high school prerequisites are identical to the Day and Evening options. In addition to achieving credit for Nursing I, the following courses must be completed with passing grades before matriculation:

BI5519 Anatomy & Physiology I.....	4 credits		
BI5520 Anatomy & Physiology II.....	4 credits		
BI5553 Microbiology.....	4 credits		
PS1101 Introduction to Psychology.....	3 credits		
EN4401 English Composition I.....	3 credits		
SPRING SEMESTER	CREDITS	SUMMER SESSION	CREDITS
NS6604 Nursing II	8	NS6653 Nursing III	8
PS1203 Developmental Psychology	3	SO3321 Principles of Sociology	3
EN4402 English Composition II	3	Social Science Elective	3
	14		14

ALL SEMESTER	CREDITS
NS6654 Nursing IV	10
NS6682 Contemporary Issues and Practices in Nursing	3
Humanities Elective	3
	16

NURSING CURRICULUM - EVENING OPTION

First Year:

ALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
NS6603 Nursing I*	8	NS6603 Nursing I*	
BI5519 Anatomy & Physiology I	4	BI5520 Anatomy & Physiology II	4
PS1101 Introduction to Psychology	3	EN4401 English Composition I	3
	15		7

PREREQUISITES: Completion of NS6603 with a grade of C or better. Nursing I must be taken prior to Nursing II. BI5519, BI5520, EN4401 and PS1101 must be taken prior to or concurrent with Nursing I.

Second Year:

ALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
NS6604 Nursing II*	8	NS6604 Nursing II*	
BI5553 Microbiology**	4	PS1203 Developmental Psychology**	3
EN4402 English Composition II**	3	Humanities Elective***	3
	15		6

PREREQUISITES: Completion of NS6604 with a grade of C or better. Nursing II must be taken prior to Nursing III. BI5553, EN4402, PS1203 and the Humanities Elective must be taken prior to or concurrent with Nursing II.

Third Year:

ALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
NS6653 Nursing III*	8	NS6653 Nursing III*	
SO3321 Introduction to Sociology	3	Social Science Elective†	3
	11		3

PREREQUISITES: Completion of NS6653 with a grade of C or better. Nursing III must be taken prior to Nursing IV. SO3321 and the Social Science Elective must be taken prior to or concurrent with Nursing III.

Fourth Year:

FALL SEMESTER	CREDITS	SPRING SEMESTER	CREDITS
NS6654 Nursing IV*	10	NS6654 Nursing IV	
NS6682 Contemporary Issues and Practices in Nursing	3		
	13		

PREREQUISITES: Completion of NS6654 with a grade of C or better. NS6682 must be taken concurrent with Nursing IV.

*Nursing I, II and III are 8 credit courses; Nursing IV is 10 credits. Each of these courses is one academic year in length. Students are required to participate in planned campus laboratory experiences.

**These courses may be taken during the Summer Session as long as they follow the sequence stated above.

***Humanities elective to be chosen from courses offered by the departments of Creative Arts and/or English and/or Foreign Languages, Philosophy & Religion.

†Social Science elective to be chosen from courses offered by the departments of Behavioral Sciences and/or History & Government.

RESPIRATORY THERAPY TECHNOLOGY

The associate in science degree program in Respiratory Therapy Technology incorporates all of the learning objectives of the entry-level certificate program and goes beyond to present the theoretical knowledge and clinical procedural skills required for employment as an advanced-level practitioner. The respiratory therapist specializes in the application of scientific knowledge and theory to practical clinical problems of respiratory care. The respiratory therapist is qualified to assume primary responsibility for all respiratory care modalities and may be required to exercise considerable independent clinical judgment in the respiratory care of patients under the direct or indirect supervision of a physician. Graduates are prepared to sit for the examination given by the National Board for Respiratory Care to become a Registered Respiratory Therapist. In order to progress in the program, a grade of C- or better is required in each Respiratory Therapy course. 77 credit hours of work are required for graduation.

PROGRAM PREREQUISITE: Two science courses (one must be biology, chemistry or physics) and two math courses (one must be algebra) with a grade of C or better.

FIRST SEMESTER	CREDITS	SECOND SEMESTER	CREDITS
BI5519 Anatomy & Physiology I	4	EN4401 English Composition I	3
MA5500 Intermediate Algebra	3	BI5520 Anatomy & Physiology II	4
SC5515 Fundamentals of Science	3	RS6629 Respiratory Pharmacology	2
RS6612 Respiratory Therapy I	9	RS6622 Respiratory Therapy II	11
	19		20

SUMMER SESSION	CREDITS
RS6632 Respiratory Therapy III: Clinical Practicum	2
	2

THIRD SEMESTER	CREDITS	FOURTH SEMESTER	CREDITS
EN4402 English Composition II	3	Humanities Elective OR	
BI5553 Microbiology	4	Social Science Elective	3
RS6642 Respiratory Therapy IV	11	RS6659 Respiratory Therapy Seminar	2
	18	RS6652 Respiratory Therapy V	8
		RS6662 Respiratory Therapy VI: Clinical Practicum	2
		Elective	3
			18

MALPRACTICE INSURANCE: All Respiratory Therapy students are required to carry malpractice insurance. The premium is to be paid prior to the beginning of classes. Students may not participate in the Respiratory Therapy program without malpractice insurance coverage.

HEALTH: Respiratory Therapy students are required to complete a health evaluation prior to beginning their Respiratory Therapy program. The college's Student Health Services clinic will designate when the information is due at the college.

RESPIRATORY THERAPY

The certificate program in Respiratory Therapy is a duplicate of the first year of the associate degree program and also includes Respiratory Therapy IV during the third semester. The program prepares the student for an entry-level practitioner position by teaching the fundamental knowledge, technical information and clinical skills necessary for employment in the respiratory care field. Technicians will assume clinical responsibility for specified respiratory care modalities involving the application of well-defined therapeutic techniques under the direct or indirect supervision of a therapist or physician. Graduates are prepared to sit for the examination given by the National Board for Respiratory Care to become a Certified Respiratory Therapy Technician. In order to progress in the program, a grade of C- or better is required in each Respiratory Therapy course. 52 credit hours of work are required for the certificate. **PROGRAM PREREQUISITE:** Two science courses (one must be biology, chemistry or physics) and two math courses (one must be algebra).

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
BI5519	Anatomy & Physiology I	4	EN4401	English Composition I	3
MA5500	Intermediate Algebra	3	BI5520	Anatomy & Physiology II	4
SC5515	Fundamentals of Science	3	RS6629	Respiratory Pharmacology	2
RS6612	Respiratory Therapy I	9	RS6622	Respiratory Therapy II	11
		19			20
SUMMER SESSION		CREDITS	THIRD SEMESTER		CREDITS
RS6632	Respiratory Therapy III: Clinical Practicum	2	RS6642	Respiratory Therapy IV	11
		2			11

MALPRACTICE INSURANCE: All Respiratory Therapy students are required to carry malpractice insurance. The premium is to be paid prior to the beginning of classes. Students may not participate in the Respiratory Therapy program without malpractice insurance.

HEALTH: Respiratory Therapy students are required to complete a health evaluation prior to beginning the Respiratory Therapy program. The college's Student Health Services clinic will designate when the information is due at the college.

ROBOTICS TECHNOLOGY

The thirty-week certificate program in Robotics Technology provides concentrated courses which develop the skills essential for an individual to become a robotic servicing technician. 29 credit hours of work are required for the certificate.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
MA5687	Contemporary Math for Electronics	4	CT6682	Computer Applications in	
ET6111	Introduction to Electric Circuits	4		Engineering & Technology	4
CT6601	Fundamentals of Digital Logic	3	ET6690	Microcomputers	4
ET6603	Digital Lab	1	ET6641	Robotics I	3
EN4401	English Composition I	3	ET6642	Robotics II	3
		15			14

TUMOR REGISTRY

The thirty-week certificate program in Tumor Registry provides concentrated courses that develop skills essential for an individual preparing for employment as a tumor registrar. Students will obtain skills in data collection, records management and analysis of cancer data. 27 credit hours of work are required for the certificate.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
MR6605	Medical Terminology I	3	MR6606	Medical Terminology II	3
BI5519	Anatomy & Physiology I	4	BI5520	Anatomy & Physiology II	4
SC5516	Introduction to Cancer and Management of the Cancer Patient*	2	MR3009	Cancer Coding, Statistics & Epidemiology*	3
CT6633	Intro. to Data Processing w/BASIC*	4	MR3020	Organization, Operation & Quality Assurance in a Tumor Registry*	2
		13	MR3030	Residency Training for Tumor Registrars**	2
					14

*Skills training component as part of course.

**On-site training component.

WORD PROCESSING TECHNOLOGY & MANAGEMENT

The associate in science degree program in Word Processing Technology & Management provides the opportunity for students to approach this rapidly expanding job market at the entry level, as well as the essential managerial background to advance to managerial and supervisory positions as word processing managers. There is intensive concentration in the technical area of word processing and office management. Education is provided for students interested in acquiring a productive and financially rewarding career in the word processing field within industries in the immediate area. 60 credit hours of work are required for graduation.

FIRST SEMESTER		CREDITS	SECOND SEMESTER		CREDITS
EN4401	English Composition I	3	EN4402	English Composition II	3
TW6631	Typewriting I, II or III**	3	TW6631	Typewriting II, III or IV**	3
SL6661	Office Administration I	3	AC6692	Elements of Accounting II	3
AC6691	Elements of Accounting I	3	SL6665	Essentials of Office Management	3
	Liberal Arts Elective	3		Behavioral Science Elective	3
		15			15
THIRD SEMESTER		CREDITS	FOURTH SEMESTER		CREDITS
	Typewriting III or IV** OR		SL6674	Word Processing II	3
	Secretarial Science Elective	3	SK6653	Machine Transcription	3
SL6669	Managerial Communications	3		Humanities Elective	3
SL6673	Word Processing I	3		Elective*	3
	Natural Science Elective	3	SL6671	Information Processing Concepts	3
	Liberal Arts Elective	3			15
		15			

*Choose one of the following electives: Shorthand (Gregg or ABC), Cooperative Education in Word Processing, Elements of Accounting III, Introduction to Data Processing with BASIC.

**Students will elect a sequence of typewriting courses (TW6621, TW6622, TW6631) after consultation with a departmental advisor.

COURSE DESCRIPTIONS

COURSE SCHEDULING

The Northern Essex Community College catalog makes no attempt to indicate when specific courses are scheduled. Many courses are offered every year, some every other year. Schedules are issued well before the beginning of each semester.

SPECIAL TOPICS COURSES/DIRECTED STUDIES

In addition to the courses listed, courses of a special nature may be made available for students. For further information concerning such courses, see the section in this catalog on Academic Standards.

MATH CHARTS

Math charts are included for students in the Business, Liberal Arts and Technology programs to assist them in selecting math courses appropriate to their backgrounds in math and their current and future educational goals. For further assistance, see a counselor.

NOTE: For all mathematics courses involving prerequisites it is recommended that the student earn a C or better in the prerequisite course before attempting the next course in the sequence.

SYMBOLS

All courses are identified by a six-symbol description preceding the course title. The first two digits relate to the discipline and are letter symbols; the last four digits are numbers. The following list of symbols is provided as a guide to help each student locate a specific course description.

AC	Accounting
AS	Aerospace Studies
BI	Biology
BA	Banking
CC	Early Childhood Education
CD	Cross Disciplinary
CE	Civil Technology
CH	Chemistry

CI/CO	Cooperative Education
CJ	Criminal Justice
CT	Computer Technology
DA	Dental Assistant
EC	Economics
ED	Education
EL	Electricity
EN	English
ES	Earth Science
ET	Electronics
FA	Fine Arts (Art, Dance, Photography)
FI	Finance
FR	French
FS	Food Service Management
GE	Geography
GM	German
GR	Gerontology
GV	Government
HI	History
HS	Health Services
HU	Humanities
IN	Interpreter Training
LW	Law
MA	Mathematics
MG	Management
MH	Mental Health
MK	Marketing
MR	Medical Record Technology
MU	Music
NS	Nursing
PE	Physical Education & Leisure
PH	Philosophy
PI	Physics
PN	Practical Nursing
PS	Psychology
RE	Religion
RS	Respiratory Therapy
RT	Radiologic Technology
SC	Science
SH	Shorthand/Dictation/Transcription
SK	Office Techniques
SL	Office Administration
SO	Sociology
SP	Spanish
TH	Theatre
TW	Typewriting

ACCOUNTING

AC6600 Workshop in Basic Business & Bookkeeping:

A 1-semester course; 3 credit hours. This course includes the study of business papers, bank checks, reconciliations, payroll accounts, the use of journals, general subsidiary ledger and the preparation of financial statements. As part of the course, the student will be required to complete a practice set. It also provides practical experience in applying the fundamentals of accounting. 3 class hours per week.

AC6601 Introductory Accounting I:

A 1-semester course; 4 credit hours. The basic concepts of accounting and uses of accounting data. Topics include the theory of debit and credit, use of journals and ledgers, analysis and recording of financial transactions, the accounting for both a service type business and a merchandising business, internal control, special journals and the control of cash transactions. 4 class hours per week.

AC6602 Introductory Accounting II:

A 1-semester course; 4 credit hours. A continuation of AC6601. Emphasis is on accounting for receivables and payables, inventories, plant and equipment, payroll accounting, partnerships, corporations and long-term liabilities. 4 class hours per week.

Prerequisite: AC6601.

AC6651 Intermediate Accounting I:

A 1-semester course; 4 credit hours. A detailed study of accounting theory and practice as it relates to financial accounting. Includes income statement and balance sheet presentation, cash, temporary investments, short-term receivables, inventories and current liabilities. 4 class hours per week.

Prerequisite: AC6602.

AC6652 Intermediate Accounting II:

A 1-semester course; 4 credit hours. A continuation of AC6651. Includes tangible assets, intangible assets, long-term liabilities, elements of corporate capital, investments, and the statement of changes in financial position. 4 class hours per week.

Prerequisite: AC6651.

AC6671 Cost Accounting:

A 1-semester course; 3 credit hours. An intensive study

of cost methods; costing for materials, labor and factory overhead; job-order process, direct costing and the use of standards. 3 class hours per week. **Prerequisite:** AC6602.

AC6682 Tax Accounting: A 1-semester course; 3 credit hours. An introduction to the principles of federal taxation with emphasis on history of income taxation, gross income, deductions, exemptions, accounting records, preparation and filing of tax returns. 3 class hours per week.

Prerequisite: AC6602.

AC6683 Accounting Information

Systems: A 1-semester course; 3 credit hours. This course is designed to provide both reinforcement of Introductory Accounting I and II and hands-on experience with a microcomputer and its role in business situations. System design theory and accounting theory will be used to show the flow of business information through data entry and financial preparation and reproduction. 2 class hours and 2 lab hours per week. **Prerequisite:** AC6602.

AC6691 Elements of Accounting I:

A 1-semester course; 3 credit hours. Study of current accounting terminology, introduction to the basic principles and practices of accounting. Topics include double-entry system and the accounting equation, journals, ledgers, trial balances, work sheets, financial statements, cash and banking procedures and payroll records. 3 class hours per week.

AC6692 Elements of Accounting II:

A 1-semester course; 3 credit hours. Study of subsidiary ledgers, the voucher system, inventories, receivables and fixed assets. Introduction to accounting for partnerships and corporations. Opportunity for extensive practice through use of long problems and practice sets. 3 class hours per week.

Prerequisite: AC6691.

AC6693 Elements of Accounting III:

A 1-semester course; 3 credit hours. Intensive study of the voucher system, corporate organization and accounting, manufacturing accounts, budgeting and internal reporting, interim statements, and analysis of financial statements. 3 class hours per week.

Prerequisite: AC6692 or equivalent.

AC6694 Simulation in Accounting: A 1-semester course; three credit hours. Students apply advanced accounting theory to the solution of comprehensive, detailed accounting problems representative of those encountered in contemporary business situations. Professional papers and relevant business cases are emphasized. 3 class hours per week. **Prerequisite:** AC6693 or equivalent.

AEROSPACE STUDIES

Note: Aerospace Studies courses are offered at the University of Lowell.

AS1010 The Air Force Today: A 1-semester course; 1 credit hour. This course deals with the Air Force in the contemporary world through a study of the total force structure, strategic offensive and defensive forces, general purpose forces, and aerospace support forces. 1 class hour per week. **NOTE:** Permission of instructor required.

AS1020 The Air Force Today: A 1-semester course; 1 credit hour. Continuation of AS1010. 1 class hour per week.

AS2010 The Development of Air Power: A 1-semester course; 1 credit hour. This course is a study of air power from balloons and dirigibles through the jet age; a historical review of air power employment in military and non-military operations in support of national objectives; and a look at the evolution of air power concepts and doctrine. 1 class hour per week. **NOTE:** Permission of instructor required.

AS2020 The Development of Air Power: A 1-semester course; 1 credit hour. Continuation of AS2010. 1 class hour per week.

BIOLOGY

BI5510 Human Biology: A 1-semester course; 3 credit hours. A basic study of the structure and function of the human body. Emphasis will be placed on the interrelationships among the systems. This course introduces the major biological principles through the study of the human

body. 3 class hours per week.

BI5511 Introductory Biology: Botany: A 1-semester course; 4 credit hours. An introductory biology course based on the study of plants. The lectures include a gross and microscopic survey of plant anatomy from algae to the higher vascular plants noting the evolutionary trends, their economic relationship with man, and the fundamentals of physiology and morphology of the higher vascular plants. 3 class hours and 2 lab hours per week.

BI5514 Introductory Biology: Zoology: A 1-semester course; 4 credit hours. An introductory biology course based on the study of animals. The lectures include a survey of major invertebrate and vertebrate animals with emphasis on their structure, adaptations, evolution and natural history. Laboratory work emphasizes identification and structural form of local fauna. 3 class hours and 2 lab hours per week.

BI5515 Principles of Biology: A 1-semester course; 4 credit hours. A course dealing with the biological principles common to both plant and animal biology. These principles include the nature of chemical systems, cellular structure and functioning, genetics, ecology, and evolution. 3 class hours and 2 lab hours per week.

BI5516 Aquatic Biology: A 1-semester course; 4 credit hours. An introductory course covering aquatic environments, the origins of lakes, ponds, rivers and streams, methods for sampling aquatic environments for micro flora and fauna, plankton and larger organisms. Use of microorganisms as indicators of pollution, plankton and larger organisms for bio-assay and for food production will all be covered. An outdoor, field-work oriented course. 3 class hours and 1 three-hour lab per week.

BI5519 Anatomy & Physiology I: A 1-semester course; 4 credit hours. Some basic principles of biology are introduced. These are followed by an introduction to the study of the structure and functioning of the human body. Systems covered are: integumentary, skeletal, muscular and nervous. Emphasis will be placed on the interrelationships between the systems.

Related topics such as diseases of the systems will be integrated where applicable. Laboratory work will include experiments, dissection, microscope work, and the study of charts and models. 3 class hours and 2 lab hours per week.

BI5520 Anatomy & Physiology II: A 1-semester course; 4 credit hours. A continuation of BI5519. Systems covered are: circulatory, endocrine, reproductive, urinary, digestive and respiratory. 3 class hours and 2 lab hours per week.

BI5530 Fundamentals of the Disease Process: A 1-semester course; 3 credit hours. Topics include causes of disease, cellular injury, inflammatory processes, neoplasms, metabolic disorders, endocrine imbalances, disturbances in blood and body fluids, infectious diseases, physical and chemical injuries, hereditary diseases and congenital defects. A survey of the basic process of disease, types of medication, diagnostic measures and types of treatment will be discussed relating to the following systems: integumentary, musculoskeletal, nervous, cardiovascular, respiratory, gastrointestinal, genitourinary and organs of special sense (eye and ear). 3 class hours per week. **Prerequisite:** MR6605/MR6606 Medical Terminology I and II or permission of instructor, and BI5519/BI5520 Anatomy and Physiology I and II or permission of instructor.

BI5553 Microbiology: A 1-semester course; 4 credit hours. The biology of bacteria and microorganisms is studied. Laboratory work emphasizes the sterile technique. Immunology is discussed. 3 class hours and 3 lab hours per week.

Prerequisite: One year of introductory biology at the college level or permission of the instructor.

BANKING

BK6601 Principles of Banking: A 1-semester course; 3 credit hours. Survey of banking's relationship to the total economy and the functional relationships of departments within the bank. Develops the framework for more specialized study of the banking institution. 3 class hours per week.

BK6602 Savings & Time Deposit

Banking: A 1-semester course; 3 credit hours. A fundamental study of the historical development and economic function of savings institutions and the savings process. 3 class hours per week.

BK6611 Money and Banking: A 1-semester course; 3 credit hours. The practical aspects of money and banking; emphasis is placed on such problems as economic stabilization, types of spending, the role of gold, limitations of central bank control, government fiscal policy, balance of payments and foreign exchange showing their repercussions on the banking industry in affecting yield curves and the structuring of portfolios. 3 class hours per week.

BK6612 Bank Management: A 1-semester course; 3 credit hours. A study of trends in the philosophy and practice of management. Some use of case study. 3 class hours per week.

BK6621 Corporate Banking: A Practical Approach to Lending: A one-semester course; 3 credit hours. A study of the banking aspects of the lending environment. The lending process, the loan request, financial analysis, loan structuring and loan administration. 3 class hours per week.

BK6622 Real Estate Finance: A 1-semester course; 3 credit hours. Examination of mortgage credit in the United States and the structure of the mortgage market. An analysis of the management considerations in mortgage lending and portfolio management. 3 class hours per week.

BK6623 Consumer Lending: A 1-semester course; 3 credit hours. This course is designed to provide an overview of the consumer credit operation. It examines the role of consumer credit in overall banking operations and offers an improved understanding of the consumer credit function within a bank. 3 class hours per week.

BK6651 Analyzing Financial Statements: A 1-semester course; 3 credit hours. Basic consideration in financial statement analysis, basic financial ratios, analysis of working capital, and other items. 3 class hours per week.

BK6653 Marketing for Bankers: A 1-semester course; 3 credit hours. A study of the concepts and philosophies of marketing, information, research and target together with the marketing mix, product strategy, distribution strategy, advertising and sales promotion and pricing strategy. 3 class hours per week.

BK6655 Negotiable Instruments: A 1-semester course; 3 credit hours. An introduction to the Uniform Commercial Code and the legal framework of the U.S. commercial banking system. Commercial paper from inception through issuance. Checks: kinds, types and environmental characteristics. Specific treatment of MICR checks, data processing problems, and the evolving paperless electronic payments. 3 class hours per week.

EARLY CHILDHOOD EDUCATION

Note: All courses prefaced CC and ED0402 are restricted to students accepted and enrolled in the Early Childhood Education program. Other students may elect these courses only with the permission of the Early Childhood Education program coordinator.

CC2201 Introduction to Early Childhood Education: A 1-semester course; 3 credit hours. This course provides the student with an understanding of the child's experience in the school as it relates to his/her total development. It raises particular problems associated with curriculum planning and helps to develop criteria for evaluating a program for young children. 3 class hours per week.

CC2264 Seminar in Philosophy of Early Childhood Education: A 1-semester course; 3 credit hours. Students are given the opportunity to summarize and analyze their understanding of the theories and practices in early childhood education and the role of the professional in this field. An informal lecture/discussion format allows for analysis of practicum experience as well as for community resource guest lecturers and independent research. 3 class hours per week.

CC2311 Observation and Recording of Child Behavior: A 1-semester course; 1 credit hour. A preliminary study of child behavior in varied educational settings. Defined areas of child behavior will be observed and recorded. 3 practicum hours per week, plus 1 hour for recording and preparation. **Prerequisite:** Enrollment in CC2201.

CC2312 Early Childhood Education Practicum I: A 1-semester course; 3 credit hours. Under the guidance and supervision of the cooperating teacher, skills and concepts of child growth, development and learning acquired in Introduction to Early Childhood Education and in Introduction to the Creative Experience will be applied by the student in selected practicum placements. 1 class hour and 8 practicum hours per week. **Prerequisite:** CC2201, FA7012.

CC2353 Early Childhood Education Practicum II: A 1-semester course; 4 credit hours. The student will be actively involved in the varied activities which constitute the curriculum of early childhood education classrooms and educational programs. Under the supervision of a cooperating teacher, the student will become more familiar with the role and responsibilities of the professional in early childhood education settings. 1 class hour and 12 practicum hours per week. **Prerequisite:** CC2201, CC2312.

CC2354 Early Childhood Education Practicum III: A 1-semester course; 4 credit hours. 16 hours of experience in the early childhood classroom or educational program allows the student both greater involvement in the program and an increased familiarity with the role and responsibilities of the early childhood education professional. 16 practicum hours per week. **Prerequisite:** CC2312, CC2353.

CC2366 Introduction to Family Day Care: A 1-semester course; 3 credit hours. Directed to the needs of family day care providers, this course is designed as an introduction to the role of the family day care provider as he/she relates to the child, his/her parents and to the community. Subject matter will cover growth and

development of children, nutrition and safety factors, interpersonal relationships and the positive ways of guiding the behavior of young children. 3 class hours per week.

CROSS DISCIPLINARY

CD0300 Orientation to Study: A 1-semester course; 3 credit hours. A course designed to increase the students' success in college by assisting students in obtaining basic skills necessary to reach their educational goals. Topics covered in this course include time planning, communication skills, library use, academic anxiety, career and job exploration and learning to focus on personal issues that college students face while in school. 3 class hours per week. **Prerequisite:** Students must be taking basic skills courses at the introductory level: i.e., Basic Writing, Introduction to Reading Strategies, Basic Mathematics; or with the permission of the instructor.

CIVIL TECHNOLOGY

CE6600 Introductory Surveying: A 1-semester course; 4 credit hours. The course is designed to give a student an introduction to basic surveying techniques on a directed studies basis. Topics covered include operation of surveying instruments, steel taping, taking field notes, level note reductions and tape corrections. 3 class hours and 1 3-hour lab per week in conjunction with CE6601 Surveying I. **Note:** To be taken only on advice of instructor.

CE6601 Surveying I: A 1-semester course; 4 credit hours. The course is designed to give the student proficiency in the use of surveying instruments and in performing necessary calculations. Horizontal, vertical and angular measurements are made and length, elevations, bearings and traverse computations with appropriate adjustments and corrections are made. Neat note taking and neat calculations are stressed. 3 class hours and 3 lab hours per week.

CE6602 Surveying II: A 1-semester course; 4 credit hours. The course is

designed to give the student more proficiency in surveying measurements and calculations involved in horizontal and vertical curves, areas, stadia measurements topographic surveys, photogrammetric surveys and land surveys. Use of modern instruments and calculation techniques are stressed. 3 class hours and 3 lab hours per week. **Prerequisite:** MA5621 and CE6601 or equivalent experience.

CE6612 Drawing for Civil Technology: A 1-semester course; 1 credit hour. A course designed to give the student a good knowledge of some of the specialized drafting techniques required in the practice of civil technology. Topics covered are plan drawing, cross section drawing, profile drawing, inking techniques, printing techniques, etc. 3 lab hours per week. **Prerequisite:** CE6601.

CE6651 Statics: A 1-semester course; 3 credit hours. Course is designed to give students a knowledge of the action of forces on various mechanical and structural systems: systems include beams, trusses, frames and arches. Topics on friction, centroids of areas and moments of inertia are also discussed. Basic principles of free body diagrams, equations of equilibrium, method of joints and method of sections are presented. 3 class hours per week. **Prerequisite:** MA5621.

CE6653 Strength of Materials: A 1-semester course; 4 credit hours. The course is designed to acquaint the student with the relationship between externally applied forces and the internally induced stresses in various types of structural members and parts, such as bolts, rivets, shafts, pressure tanks, beams and columns. Also covered is the relationship between the externally applied forces and the resulting deformations. Particular attention is given to beam bending, column loadings, tension in shafts, centroids and moments of inertias and combined stresses in structural elements. 3 class hours and 3 lab hours per week. **Prerequisite:** CE6651 or equivalent.

CE6654 Structural Analysis & Design: A 1-semester course; 3 credit hours. The course includes the fundamental principles involved in the design of steel and

reinforced concrete structures. The student learns the basic analysis and design techniques for beams, columns, walls, footings, retaining walls, floor systems and flat slabs as specified by modern building codes. Fundamentals of timber design are also covered. 3 class hours per week.

CE6665 Transportation Engineering: A 1-semester course; 3 credit hours. Designed to familiarize the student with all forms of modern transportation systems; the advantages, disadvantages and peculiarities of each system. Systems studied include highway, railroad, airplane, water, pipelines, conveyors and undersea vehicles. 3 class hours per week.

CE6671 Sanitary Engineering: A 1-semester course; 3 credit hours. The course is designed to give the student a knowledge of the problems and solutions of water supply and sewerage. The course considers the problems of water from rainfall, through storage, storm drainage, hydraulics, distribution and treatment of drainage water; collection, disposal and treatment of sanitary sewage. Water and storm drainage and sanitary sewerage systems design is stressed. 3 class hours per week.

CE6672 Soil Mechanics: A 1-semester course; 4 credit hours. The course is designed to give the student a basic knowledge of the problems of soil. The course teaches the student to understand and evaluate the properties of soil materials. Lectures are reinforced by the use of a soil testing laboratory which enables the student to develop a thorough knowledge of soil testing techniques and proper use of experimental data. The course also deals with the topics of the interaction of soils and groundwater, consolidation of soil and settlement of structures, and the bearing capacity of soil under foundations. 3 class and 3 lab hours per week.

CE6682 Field Engineering Problems: A 1-semester course; 1 credit hour. The course is designed to give the student practical field problems in surveying and civil engineering. Construction surveying, topographic surveying, subdivision layout

and control are stressed. Advanced field and practical office techniques are covered. 3 lab hours per week. **Prerequisite:** CE6602.

CHEMISTRY

CH5501 General Chemistry I: A 1-semester course; 4 credit hours. Deals with inorganic and physical chemistry. The study of the structure of atoms and the periodic nature of the elements. The examination of the relationship of energy and the elements to form compounds and the three physical states of matter: solid, liquid and gas. 3 class hours and 3 lab hours per week.

Prerequisite: One year of high school chemistry and one year of pre-college math.

CH5502 General Chemistry II: A 1-semester course; 4 credit hours. A continuation of General Chemistry I, dealing with physical and inorganic chemistry. Examines in detail the mechanical, thermal and electrical changes as demonstrated in solution theory, electrochemistry, chemical kinetics and chemical equilibrium. A brief introduction to organic chemistry is given. 3 class hours and 3 lab hours per week. **Prerequisite:** CH5501.

CH5503 Introductory Chemistry I: A 1-semester course; 4 credit hours. The course covers the basic understanding of atomic structure of the elements and periodic table. The study of solid, liquid and gaseous states of matter is undertaken. 3 class hours and 2 lab hours per week.

Prerequisite: A course in algebra.

CH5504 Introductory Chemistry II: **Inorganic:** A 1-semester course; 4 credit hours. The course covers the study of solutions, acids, bases and neutralization. The topics of equilibrium, reaction rates and oxidation reduction are also studied. The application of physical chemical theory to inorganic chemistry is presented and a brief review of organic chemistry is undertaken with special emphasis on how this aspect of chemistry relates to biological systems. 3 class hours and 2 lab hours per week. **Prerequisite:** CH5503.

CH5507 Introductory Chemistry II:

Organic: A 1-semester course; 4 credit hours. Organic chemistry is the study of organic compounds. The course includes the synthesis of aliphatic and aromatic compounds from petroleum and coal derivatives and the study of the functional groups of these primary series. The course will provide a foundation for the study of complex carbon compounds in a technological society with special emphasis towards the understanding of the chemistry of the life sciences. 3 class hours and 3 lab hours per week. **Prerequisite:** CH5503 or permission of instructor.

COOPERATIVE EDUCATION

CI4401 Career Internship I: A 1-semester course; 3 credit hours. Career Internship is designed to provide students with off-campus experiences related to their educational needs and/or career objectives, subject to the guidelines established by the student's academic department and the Office of Cooperative Education. Grade is based upon supervisor's evaluation of student growth, coordinator's evaluation of student performance, and advisor evaluation of what took place during the semester. A minimum of 140 hours of work experience is required per semester.

Prerequisite: Prior approval of Academic Coordinator responsible for student's program and the Office of Cooperative Education. Students are expected to work in volunteer/non-paid position.

CI4402 Career Internship II: A 1-semester course; 3 credit hours. A second course designed to provide additional off-campus experiences in volunteer positions related to student's academic program and/or career objectives, subject to the guidelines established by student's academic department and the Office of Cooperative Education. Grade is based upon employer's evaluation of student's growth, coordinator's evaluation of student performance, and advisor's evaluation of what took place during the semester. Students are expected to increase their responsibilities over and above what was performed in either Cooperative Education

I (CO4401) or Career Internship I (CI4401). A minimum of 140 hours of work experience is required per semester.

Prerequisite: Prior approval of Academic Coordinator responsible for student's program and the Office of Cooperative Education. Students are expected to work in volunteer/non-paid positions.

CO4401 Cooperative Education I: A 1-semester course; 3 credit hours.

Cooperative Education is an experiential approach designed to provide training for students seeking to enter or re-enter a career field. Students gain practical experiences that are related to their academic program and/or career goals, subject to the guidelines established by the appropriate academic department and the Office of Cooperative Education. Each student will be expected to participate in one or more workshops during the semester. Students develop a list of objectives to be accomplished during the semester and will be evaluated by the work site supervisor, the Co-op Coordinator and the student at the end of the semester. A minimum of 180 hours of work experience is required per semester. **Prerequisite:** Prior approval of the Director of Cooperative Education & Placement and the Academic Coordinator responsible for the student's program.

CO4402 Cooperative Education II: A 1-semester course; 3 credit hours. A second course in Cooperative Education is designed to provide students with additional off-campus experiences related to their educational needs and career goals, subject to the guidelines established by the appropriate academic department and the Office of Cooperative Education. Students will be expected to attend a series of workshops during the semester. Grade is based upon employer's academic evaluation of student growth, coordinator's evaluation of student performance, and a self-evaluation of work accomplished by the student. Students are expected to increase their responsibility over and above what was performed during CO4401 Cooperative Education I or CI4401 Career Internship I. A minimum of 180 hours of work experience is required per semester.

Prerequisite: Cooperative Education I or Career Internship I and prior approval of the Director of Cooperative Education & Placement and the Academic Coordinator responsible for the student's program.

CRIMINAL JUSTICE

CJ3601 Concepts of Criminal Law: A 1-semester course; 3 credit hours. The substantive law of crimes, its historical development and philosophy. This course includes classification of crime, definitions and elements of specific crimes, parties to a crime and defenses of a crime. 3 class hours per week.

CJ3603 Introduction to Criminal Justice: A 1-semester course; 3 credit hours. The history, philosophy and function of the criminal justice system in America, identifying the various sub-systems and role expectations. An overview of crime, punishment and rehabilitation ethics, education and training for professionals in the system. 3 class hours per week.

CJ3607 Functions of Police in Modern Society: A 1-semester course; 3 credit hours. The functions of the police in contemporary society will be analyzed in their historical, sociological, and political context. Particular emphasis will be placed upon the conflicting role expectations facing the police in a democracy. Special topics included will be police discretion, corruption, leadership and professionalization. 3 class hours per week.

CJ3608 Introduction to Corrections: A 1-semester course; 3 credit hours. An introduction and overview of fundamental processes, trends and practices of the correctional institutions. Dealing with but not limited to such concepts as institutional treatment, prisoner rights, parole, pre-release centers and government support of ex-offenders. 3 class hours per week.

CJ3609 The Criminal Court System: A 1-semester course; 3 credit hours. An examination of the concepts, values and procedures of the criminal court system with an emphasis on the district and juvenile court structures. 3 class hours per week.

CJ3667 Crisis Intervention in the Criminal Justice System: A 1-semester course; 3 credit hours. How persons involved in Criminal Justice apply crisis theory, manage interpersonal conflict and use effective techniques of crisis intervention. Specific crisis situations frequently and somewhat uniquely encountered will be considered. These include, but are not limited to, family disputes, forcible rape, child abuse, potential suicide and hostage situations (including terrorism). 3 class hours per week.

CJ3670 Senior Seminar: A 1-semester course; 3 credit hours. Forum for criminal justice students focusing upon special issues in criminal justice. A primary emphasis will be the student's development of a "Senior Paper" which analyzes an agency in light of course work to date. 3 class hours per week.

CJ3672 Field Practicum Experience: A 1-semester course; 3 credit hours. Course for pre-service students. Planned program of observation in selected criminal justice agencies representing the major components of the system. The student will select an agency provided by the coordinator and assist in activities deemed appropriate by the agency. Students shall be required to maintain a journal as specified by the field supervisor. 1 class hour and 8 field hours per week.

Prerequisite: Full-time enrollment in the Day Division's Criminal Justice Program. Student must be in his/her fourth semester.

COMPUTER TECHNOLOGY

CT6601 Fundamentals of Digital Logic: A 1-semester course; 3 credit hours. The evolution of data processing or automatic computation. The mechanics of automatic computation including number system, logic, codes, arithmetic operations and organizations are covered in detail. 3 class hours per week.

CT6611 RPG Programming: A 1-semester course; 4 credit hours. An introduction to RPG II Business Programming with applications. Report

Program Generator topics include sequential file processing, business calculations, reports with headers, control breaks and total lines, simple table or array processing techniques and interactive concepts. 3 class hours and 3 lab hours per week. **Prerequisite:** CT6633 or previous course in programming.

CT6622 FORTRAN Programming: A 1-semester course; 4 credit hours. A comprehensive study of FORTRAN with business and mathematical applications. Topics include file processing, data types, array manipulation, external programs, and interactive programming techniques. 3 class hours and 3 lab hours per week.

Prerequisite: CT6633 or previous course in programming.

CT6624 PASCAL Programming: A 1-semester course; 4 credit hours. A comprehensive study of structured programming with the PASCAL programming language. Topics include input and output statements, control statements, data types, function and procedure, arrays, records and files, and dynamic data structure. 3 class hours and 3 lab hours per week. **Prerequisite:** CT6633 or previous course in programming.

CT6633 Introduction to Data Processing with BASIC: A 1-semester course; 4 credit hours. An introductory data processing course focusing on the fundamental concepts of computer hardware and software. Basic concepts of computer technology, programming and processing with an emphasis on new programming methodologies and hardware advances in general, and on the BASIC language in particular. **Note:** Not for students majoring in the Computer Technology programs. 3 class hours and 3 lab hours per week.

CT6638 Advanced BASIC Programming with Applications: A 1-semester course; 4 credit hours. This course will build upon the introduction to the BASIC programming language presented in CT6633 Introduction to Data Processing with BASIC. In addition to moving from minimal to extended BASIC, the course will concentrate on maximizing the students'

use of the computer's problem-solving capability through the preparation of a variety of application programs. Material covered will include random numbers, subscripted variables, string manipulation, sub routines, functions, file processing and text editing. 3 lecture hours and 3 lab hours per week. **Prerequisite:** CT6633 and/or working knowledge of the BASIC programming language.

CT6639 Introduction to Data Processing with Pascal: A 1-semester course; 4 credit hours. An introductory data processing course focusing on the fundamental concepts of computer hardware and software. Basic concepts of computer technology, programming and processing with an emphasis on new programming methodologies and hardware advances in general, and on the Pascal language in particular. **Note:** Required of students in the Computer Technology programs. 3 class hours and 3 lab hours per week.

CT6640 Data Structures: A 1-semester course; 4 credit hours. Data Structures focuses on common methods of organizing information to be used in problem solving. Emphasis will be on programming in a top down structured design style utilizing a variety of data structures. The student, after completing the course, will be able to solve a wide variety of programming problems and be well prepared for further studies in Computer Science. 3 class hours and 3 lab hours per week. **Prerequisite:** CT6639 Introduction to Data Processing with Pascal.

CT6649 Assembly Language Programming: A 1-semester course; 4 credit hours. Basics of CPU, BCD arithmetic, instruction sets, addressing techniques, input/output, and bit manipulation are covered. Examples will stress business problems. 3 class hours and 3 lab hours per week. **Prerequisite:** CT6633 (or the successful completion of another computer language).

CT6651 Advanced Assembly Language Programming: A 1-semester course; 4 credit hours. A thorough study of the absolute machine language and the

assembler for the computer on campus. Fixed and floating point instructions, addressing techniques, input/output, relocation, macros and subroutines are covered. 3 class hours and 3 lab hours per week. **Prerequisite:** CT6601, CT6633, ET6690.

CT6652 COBOL Programming: A 1-semester course; 4 credit hours. An introduction to Structured COBOL Programming with applications. COBOL topics include sequential file processing, business calculations, reports with headers, control breaks, total lines, simple table or array processing techniques and interactive concepts. 3 class hours and 3 lab hours per week. **Prerequisite:** CT6633 and previous course in programming.

CT6653 Advanced COBOL Programming: A 1-semester course; 4 credit hours. This course covers the advanced concepts of the COBOL programming language. Topics include table and array processing techniques, sequential and index sequential disk files, sort routines and interactive program processing techniques, and data base concepts. 3 class hours and 3 lab hours per week. **Prerequisite:** CT6652.

CT6661 Advanced Computer Systems Programming: A 1-semester course; 4 credit hours. Advanced topics such as disk and the file organization, interrupt programming, linkage of programs written in different languages plus a study of the various instruction formats and types of instructions found in modern equipment. 3 class hours and 3 lab hours per week. **Prerequisite:** CT6651.

CT6676 Business Systems Analysis and Design: A 1-semester course; 4 credit hours. This course will introduce the student to the methods of systems analysis and the skills required to increase business productivity using the full potential of computer-related technologies. Emphasis will be placed on the structured, life-cycle process for the design of usable computer-based systems as the student applies systems analyst skills in the completion of a series of case study-related lab assignments and a semester-long project examining and

making recommendations regarding a specific working business. Attention will also be directed at developing the professional skills necessary to performing productively in a business environment. 3 class hours and 3 lab hours per week. **Prerequisite:** CT6652.

CT6680 Computers and Decision Support Software: A one-semester course; 4 credit hours. This introductory course focuses on decision-making and how the solution to problems can be supported by a computer-based information system. Software covered includes text editing, spreadsheets, data base management, graphics, integrated software, vertical application programs and data communications. This course meets the requirements as a technical elective for Computer Technology students and as an elective for students in other degree programs. 3 class hours and 3 lab hours per week.

CT6682 Computer Application in Engineering and Technology: A 1-semester course; 4 credit hours. The course is designed to give the student a knowledge of the computer solutions to the great quantities of calculations that are necessary in practice. Basic computer operation and programming techniques are covered with emphasis on such languages as BASIC and FORTRAN. Students who have taken BASIC and/or FORTRAN programming may not take this course. 3 class hours and 3 lab hours per week. **Prerequisite:** MA5622 concurrently or MA5690.

CT6683 Computer System Troubleshooting: A 1-semester course; 4 credit hours. An overview to the computer system including the architecture of a CPU and computer operations. A study is made of decoding and buffering circuits, memory interfacing and Input/Output interfacing both parallel and serial. These concepts are illustrated via the S-100 bus. Computer system fault analysis and troubleshooting techniques are also covered as are such tools as signature and logic analyzers. 3 class hours and 3 lab hours per week. **Prerequisite:** ET6690 Microcomputers.

DENTAL ASSISTANT

DA0100 Dental Assisting I: A 1-semester course; 5 credit hours. This course provides the student with an understanding of materials commonly used in the dental office, dental history, principles of dental jurisprudence and ethics, and an overview of the dental assistant's role in dental specialties such as oral surgery, orthodontics, endodontics and restorative dentistry. The student will perform laboratory procedures associated with chairside dental assisting. 4 class hours and 3 lab hours per week. **Prerequisite:** Acceptance into the Dental Assistant Program.

DA0105 Dental Clinical I: A 1-semester course; 4 credit hours. This course is designed to provide the student with the principles of four-handed dentistry, instrument identification and use, and aseptic techniques including the principles of microbiology and sterilization. 2 class hours and 6 lab hours per week.

Prerequisite: Acceptance into the Dental Assistant Program.

DA0110 Oral Science I: A 1-semester course; 3 credit hours. This course provides the student with an understanding of the development form and function of the oral cavity by examining oral anatomy, oral histology, oral embryology, and head and neck anatomy. 3 class hours per week.

Prerequisite: Acceptance into the Dental Assistant Program.

DA0130 Dental Radiology I: A 1-semester course; 2 credit hours. This course is designed to examine the theoretical aspects of radiation production, safety, biological effects, paralleling exposure technique, darkroom processing, film mounting and radiographic interpretation. Proficiency in radiographic technique will be accomplished on a manikin. 1 class hour and 2 lab hours per week. **Prerequisite:** Acceptance into the Dental Assistant Program.

DA0200 Dental Assisting II: A 5-week course; 3 credit hours. This course is a continuation of Dental Assisting I. The dental specialties periodontics, pedodontics and prosthodontics will be studied as well

as preventive dentistry, nutritional counseling, dental emergencies and dental office management. The student will construct dental laboratory appliances associated with chairside dental assisting. 6 class hours and 6 lab hours per week.

Prerequisite: Dental Assisting I with a grade of C or better.

DA0205 Dental Clinical II: A 5-week course; 1 credit hour. This course is designed to coordinate the four-handed dentistry principles learned in Dental Clinical I by providing pre-clinical experiences necessary for the students to make judgments regarding anticipation of the dentist's needs and to perform procedures which are usually required in general dentistry practices. 6 lab hours per week. **Prerequisite:** Dental Clinical I with a grade of C or better.

DA0245 Oral Science II: A 5-week course; 1 credit hour. This course is designed to provide the student with an understanding of diseases of the oral cavity and pharmacological agents that are utilized in the dental office. 3 class hours per week. **Prerequisite:** Oral Science I with a grade of C or better.

DA0250 Dental Radiology II: A 5-week course; 1 credit hour. This course is a continuation of Dental Radiology I. The bisecting angle technique of exposing dental films will be emphasized. Proper radiographic technique will be developed on a manikin prior to exposing radiographs of patients. 6 lab hours per week.

Prerequisite: Dental Radiology I with a grade of C or better.

DA0275 Dental Seminar: A half-semester course; 1 credit hour. This course provides the student with an opportunity to analyze dental assisting procedures, patient care in the dental office and practicum experiences, and to hear scheduled guest lecturers from the dental community. 2 class hours per week for eight weeks.

DA0280 Dental Assisting Practicum: A 10-week course; 5 credit hours. This course requires a minimum of 300 hours of clinical experience in various dental offices where the student will perform chairside dental skills under the supervision of the dentist

and his/her staff. Students will be assigned on a rotational basis with emphasis on general dentistry. Liaison with the students and the dental offices is maintained by the coordinator of the Dental Assistant program. 30 practicum hours per week for 16 weeks. **Prerequisite:** A grade of C or better in all Dental Assistant courses prior to practicum assignment.

EARTH SCIENCE

ES5010 Earth Science: A 1-semester course; 3 credit hours. A survey of the earth sciences. This course will examine various earth systems and processes including the earth as a planet, the atmosphere and weather, the oceans, the solid earth and its minerals, and such processes as volcanism, weathering, glaciation, erosion and tectonics. This course should not be taken by students who have had Physical Geology or Meteorology. 3 class hours per week.

ES501 Meteorology: A 1-semester course; 4 credit hours. A basic study of the elements which constitute weather: temperature, pressure, winds, humidity and precipitation. Further study includes weather data analysis and forecasting, and the relationships between weather and climate. 3 class hours and two laboratory hours per week.

ES502 Physical Geology: A 1-semester course; 4 credit hours. Introduction to landforms and the processes of their formation: erosion by wind, water, ice, beaches and wave action. Further study is accomplished through the use of topographic maps. Additional topics include descriptions of basic rocks and minerals, volcanism, mountain building and crustal movement. 3 class hours and 2 lab hours per week.

ECONOMICS

EC322 Micro-Economics: A 1-semester course; 3 credit hours. Introduction to micro-economics. This semester centers upon the functioning of individual markets and their effectiveness for resource allocation. Includes price and production

theory, the distribution of income, and the theory of household behavior. 3 class hours per week.

EC323 Macro-Economics: A 1-semester course; 3 credit hours. Introduction to macro-economic analysis and policy. An examination of the foundation and nature of economic principles as they apply to national output, money and banking, and monetary and fiscal policy. Course also focuses upon the problems of employment, inflation and economic growth as illuminated by modern national income analysis. 3 class hours per week.

EC362 Survey of Economics: A 1-semester course; 3 credit hours. A non-technical survey of current economic problems. Background of economic concepts and terminology. Some focus on comparative economic systems. Not recommended for transfer students. 3 class hours per week.

EDUCATION

ED0401 Teaching Reading in Early Childhood: A 1-semester course; 3 credit hours. Basic early childhood (pre-school through grade 3) reading skills and teaching techniques will be explored. Topics include children's literature, reading readiness, phonics and other word analysis skills, vocabulary, comprehension, the dyslexic youngster, diagnostic tools, area reading programs and current issues. This course is directed primarily to those interested in working with the lower primary-aged child. 3 class hours per week.

ED0402 Teaching Reading Readiness: A 1-semester course; 3 credit hours. An imaginative and creative approach to teaching readiness skills through literature for the pre-primary child. Behavioral characteristics of young children and their implications relating to books will be the focus of the course. Picture books, storytelling, folk tales, fantasy, puppetry, dramakinetics, reading aloud, oral language development, along with guidelines for assisting the child in becoming more ready for beginning reading instruction, will be explored and demonstrated. This course is

directed primarily for anyone who is or who seeks to work with the pre-school child. 3 class hours per week.

ELECTRICITY

EL6601 Electricity I: A 1-semester course; 6 credit hours. History of electricity; electron theory; conductors and insulators; batteries; Ohm's law; resistors; series, parallel and combinational DC circuits; basic math review; magnetism; reading and interpreting of blueprints; residential wiring; national and state electrical codes. 5-1/2 class hours per week. **Prerequisite:** Proficiency in basic arithmetic functions.

EL6602 Electricity II: A 1-semester course; 6 credit hours. Scientific notation; powers and roots; vectors; basic trigonometry; alternating current principles; AC circuit calculations; inductance and capacitance; reactance; series and parallel AC circuits; specifications and floor plans for commercial buildings; understanding construction details; drawing one-line diagrams of power systems; applying code regulations to commercial buildings; load calculations. 5-1/2 class hours per week. **Prerequisite:** EL6601 Electricity I.

EL6603 Electricity III: A 1-semester course; 6 credit hours. The metric system; power factor and correction techniques; transformers; DC motors and generators; Wye and Delta transformers; single phase AC systems; polyphase systems; specifications and floor plans for industrial plants; feeder and subfeeder calculations; electrical code for transformers, services, motors, capacitors. 5-1/2 class hours per week. **Prerequisite:** EL6602 Electricity II. **NOTE:** May be used as a technical elective in the Electronic Technology Program.

EL6604 Electricity IV: A 1-semester course; 6 credit hours. Characteristics of three-phase alternators; AC motors and generators; basic motor controllers; introduction to solid state components; reading electronic diagrams; troubleshooting electro-mechanical and solid state motor control circuits; basic test instruments; drawing schematic control diagrams; electrical code review and

practical applications; exam preparation. 5 1/2 class hours per week. **Prerequisite:** EL6603 Electricity III. **NOTE:** May be used as a technical elective in the Electronic Technology Program.

ENGLISH

EN0101 Journalism I: A 1-semester course; 3 credit hours. The course provides background and training in journalistic writing with the emphasis on the technique of newspaper reporting and publication. Attention is also given to preparation of scripts and tapes for broadcasting as well as writing the press release. 3 class hours per week.

EN0102 Journalism II: A 1-semester course; 3 credit hours. Advanced reporting and news production. Assignments relate to covering public affairs (including local government and community services) in the Merrimack Valley. The student will assist in the production of THE OBSERVER, the student newspaper. Required: at least five well-developed articles published in area publications. 3 class hours per week. **Prerequisite:** EN0101 or permission of the instructor.

EN0103 Journalism Practicum: A 1-semester course; 3 credit hours. The course provides practical experience in professional journalism through internships at area newspapers, broadcasting stations or public relations departments of area institutions and agencies. A faculty member and representative of the employing agency coordinate and evaluate the student's work. 1 class hour and 6 practicum hours per week. **Prerequisite:** EN0102 and recommendation of faculty teaching course in the Course Concentration in Journalism/Broadcasting.

EN0121 Creative Writing: A 1-semester course; 3 credit hours. The theory and practice of all kinds of creative writing: poetry, fiction, drama, non-fiction narrative. Emphasis on students' own writing, group discussion, and readings in professional writers appropriate to students' writing. 3 class hours per week.

N0400 Introduction to Reading

Strategies: A 1-semester course; 3 credit hours. A course designed to help students improve their basic reading skills. Through group and individualized instruction, the course helps the student develop the skills, habits and attitudes that will result in more effective reading. Topics include word analysis, vocabulary development, comprehension techniques, and study skills. Instructional materials are at an appropriate level. Much attention is given to the development of individualized skills in the Reading Lab, and for this reason pre-and post-diagnostic tests are given. 2 class hours and 2 lab hours per week.

N0401 Reading Strategies: A 1-semester course; 3 credit hours. This course is designed to meet a variety of more advanced reading and study skills needs, primarily the need to read college level materials more effectively. Students learn to recognize main ideas, to read an article or chapter and remember its key points, to take inclusive, meaningful notes, to read actively and critically, to explore memory techniques, and to respond to our language with greater vocabulary depth. 3 class hours and 1 lab hour per week.

N1282 ESL III: A 1-semester course; 3 credit hours. Grammar for college composition for non-native speakers. 7 instructional hours per week. **Prerequisite:** Satisfactory score on placement test and fluency in English conversation skills.

N1283 ESL IV: A 1-semester course; 3 credit hours. Techniques for college composition for non-native speakers. 7 instructional hours per week. **Prerequisite:** Satisfactory score on placement test and fluency in English conversation skills.

N1284 ESL Reading Skills: A 1-semester course; 3 credit hours. ESL Reading Skills is a course intended for intermediate and advanced students of English as a Second Language who are not ready to read college materials in English. Topics include vocabulary development, dictionary usage, word analysis, reading fluency and comprehension. An emphasis is placed on readings that include English for Social Purposes, enabling the student to

attain greater success in courses containing technical vocabulary. Much attention is given to development of individualized skills during the two laboratory hours. Diagnostic pre and post tests are given. 2 class hours and 2 lab hours per week.

EN2450 Speed Reading: A 1-semester course; one credit hour. This course is intended for students who have successfully completed Reading Strategies or who have demonstrated, through assessment testing, a reading and vocabulary level at or above their current grade. The basic objective of the course is to enable students with average or better-than-average reading skills to develop more flexible and more efficient reading habits. Emphasis is placed upon the development of phrase reading, previewing, skimming and scanning techniques. Students will practice the skills in class with appropriate text and workbook materials, as well as their own literature. Progress will be evaluated through the use of standardized and informal testing. 1 class hour per week. **Prerequisite:** Reading Strategies or permission of instructor.

EN3333 Broadcast Reporting and Announcing: A 1-semester course; 3 credit hours. The student will learn through the study of current radio and television practices how to edit and write news items for the radio and TV news media; how to broadcast these items on radio and TV; how to use basic equipment associated with radio and TV news gathering and production; and how to evaluate current broadcasting practices. Students are encouraged, though not required, to have access to a portable tape recorder and stop watch. 3 class hours per week.

EN3334 Television Production I: A 1-semester course; 3 credit hours. The student will learn through the study of current television practices: how to write for, edit, produce and direct various complete television programs in a non-dramatic format; how to operate the equipment in the TV studio and control centers; and how to evaluate television content. While the emphasis will be on the TV news program in which the student will learn how to work as an assignment editor and anchor person, the student will also

learn the basic techniques of the extended interview, the panel show and the documentary. 2 lecture hours and 2 lab hours per week. Limited to 18 students.

Prerequisite: EN3333 and permission of the instructor.

EN3335 Television Production II: A 1-semester course; 3 credit hours. The course builds upon the basic skills learned in Television I by utilizing the crew system in the television studio and control room. Each student is required to produce (plan, write, stage, and direct) one television program on a topic of his choice to demonstrate these competencies: the ability to write a standard television script; the ability to use the specialized language of television; the ability to select and adapt audio and visual materials appropriate to the subject of the program. Each student will be required to assist in the television production of at least two projects related to the college's performing arts (mime, dance, drama, music). 2 lecture hours and 2 lab hours per week. Limited to 18 students. **Prerequisite:** Successful completion of Television Production I.

EN4311 Communications I: A 1-semester course; 3 credit hours. A writing course related to both Reading Strategies and Humanities I; designed for students in the Discovery Program only. Focuses on written forms of communication demanded at the college level, especially the paragraph, the short composition and the documented essay. 3 class hours per week. At the discretion of the instructor, 1 additional lab hour per week in the Writing Center may be required.

EN4400 Basic Writing: A 1-semester course; 3 credit hours. Designed for students who lack the writing skills necessary to succeed in English Composition I. Emphasizes the composition of sentences, paragraphs and short essays. Attention is also given to punctuation, grammar and spelling on an individualized basis. This course does not satisfy any part of the English Composition requirement for graduation. Enrollment is dependent upon referral by the Composition I faculty on the basis of a writing sample, faculty advisor's

or counselor's referral, or permission of the instructor. Students for whom English is a second language are strongly urged to have completed ESL IV or have equivalent knowledge. The instructor may require 1 lab hour per week, in addition to the class hours. 3 class hours per week.

EN4401 English Composition I: A 1-semester course; 3 credit hours. A required course to develop clear, effective writing, including the special techniques in communication and the development of ideas that enable students to organize their thoughts and interest others in what they say. Students will be required to demonstrate their writing competency based upon written minimum standards established by the department. 3 class hours per week. **Prerequisite:** Students entering English Composition I will be required to complete a writing sample. Students whose writing sample gives evidence of deficiency, based upon the department's criteria, will be **required** to postpone taking English Composition I until they have successfully completed a preparatory writing or reading course or done other independent work supervised by a staff member.

EN4402 English Composition II: A 1-semester course; 3 credit hours. A required course which is a continuation of English Composition I with emphasis on longer analytic and argumentative papers and style. Readings and materials, which will vary from section to section, will be employed as the basis for a range of essays such as reports, evaluations, literary criticism, reviews, film criticism, research papers. 3 class hours per week.

Prerequisite: completion of EN4401 with a grade of C or better.

EN4676 Technical Writing: A 1-semester course; 3 credit hours. This course provides exposure to and practice in various types of technical writing. It is appropriate for those considering technical communication as a career or those in technical fields who wish to communicate more effectively. Adapting style to audience and use of visual aids will be emphasized throughout. There will be practice in preparing technical definitions, descriptions,

ser instructions, proposals, written and
al reports. Whenever possible students
ill be expected to integrate their technical
nowledge with writing projects in this
ourse. 3 class hours per week.

Prerequisite: EN4401 and EN4402

N4678 Spelling Laboratory: A 1-
semester course; 1 credit hour.

individualized help for the poor speller.
Students enrolling in this course will be
ven a diagnostic test to locate particular
pelling problems: an individualized
rogram involving intensive practice with
pelling tapes and workbooks will be set up.
ne credit earned in this course does not
tisfy any part of the composition
quirement for graduation. 2 lab hours per
eek held in the Writing Center and/or the
udio Laboratory. **Prerequisite:**
ermission of the instructor.

N5500 Introduction to Language: A 1-
semester course; 3 credit hours. A general
erview of the study of language to
clude: the origin and development of
anguage; the universal properties of
anguage; language acquisition; dialects;
eaning changes; and semantics. Various
anguages, American Sign Language, and
istory of the English language will be
discussed. 3 class hours per week.

N8011 Speech: A 1-semester course; 3
redit hours. Instruction and practice in
ills essential to effective oral
ommunication. The course includes
rganization, presentation, and relationship
etween speaker and audience. 3 class
urs per week.

N8020 Interpersonal Communication:
1-semester course; 3 credit hours. A
course designed to help students
nderstand the theory and develop the
ills necessary for effective
ommunication. The course explores
ommunication axioms, verbal and
nverbal messages, message reception
ad sending, interpersonal listening and
idback, E-prime language, nondirective
rponding, paraphrasing, describing
elings, behaving assertively, managing
onflict, and facilitating consensus in small
roups. 3 class hours per week.

EN8401 Children's Literature: A 1-
semester course; 3 credit hours. An
introductory course in children's books.
Considers the history of children's literature
and contemporary authors. Study of criteria
of good literature, children's interests and
developmental stages related to books,
various genre of children's literature,
children's book awards, illustrators and
authors, and reference sources. 3 class
hours per week.

EN8801 The Bible As Literature: A 1-
semester course; three credit hours.
Designed to capture the literary content,
qualities, and techniques of the Hebrew and
Greek scriptures in translation, with
particular emphasis on the Old Testament.
Genres to be analyzed include the heroic
narrative, epic, tragedy, lyric poetry,
encomium and others. 3 class hours per
week.

**EN8851 American Literature Before
1900:** A 1-semester course; 3 credit hours.
A survey of such significant authors of the
17th, 18th, and 19th centuries as
Bradstreet, Franklin, Irving, Hawthorne,
Emerson, Thoreau, Melville, Whitman,
Dickinson, Twain, Crane and James. 3
class hours per week.

**EN8852 American Literature Since
1900:** A 1-semester course; 3 credit hours.
James, Hemingway, Fitzgerald, and
Faulkner indicate the range of our prose.
Porter, O'Connor, Ellison and Baldwin, the
fact that it extends to women and blacks.
Our century is rich in poetry as well thanks
to Robinson, Frost, Williams, Pound and
Ginsberg. A survey of twentieth-century
literature, with varying selections among
these authors and others. 3 class hours per
week.

**EN8853/EN8854 British Literature I and
II:** A 2-semester course; 3 credit hours per
semester. A study of the major works of
selected English poets, dramatists and
prose writers, with their historical and
literary background, directed through
lectures and reading, with special exercises
in interpretation and criticism. 3 class hours
per week.

**EN8856/EN8857 Literature: Major
Writers I and II:** Two 1-semester courses;

3 credit hours per semester. An examination of the principal works of one or two major writers of Classical, European, English, American, Latin American, Asian, or African literature. The author or authors examined will differ each semester. 3 class hours per week.

EN8861 Western Literature Before

1600: A 1-semester course; 3 credit hours. Among the authors will be a preponderance of Greeks - Homer, Aeschylus, Sophocles, Euripides, Aristophanes and Plato - because of the richness of ancient and classical literature in Greece. Romans such as Ovid and Virgil and anonymous medieval authors will also be read, for the pleasures they afford and the signs they give of how and why cultural artifacts are transmitted. 3 class hours per week.

EN8862 Western Literature Since 1600:

A 1-semester course; 3 credit hours. Great books from the last thousand years, written in languages other than English and wonderfully readable in translation. Dante, Machiavelli, Moliere, Voltaire, Ibsen, Gogol, Dostoevsky, Chekhov, Kafka and Malraux suggest the variation in selection that will occur from year to year. 3 class hours per week.

EN8864 Literature: Shakespeare: A 1-semester course; 3 credit hours.

Shakespeare provides a more comprehensive sense of human nature and potential than any of our other writers. Selected plays will be analyzed to understand, first, each play's internal workings; and second, Shakespeare's rapidly evolving moral and artistic concerns. This course cultivates students' abilities to read the plays comfortably, to follow and enjoy a performance, and to write about the plays with understanding. 3 class hours per week.

EN8867 Mythology and Literature: A 1-semester course; 3 credit hours. The study of the stories a society cannot forget. Using texts ranging from the Bible and Homer's epics to contemporary literary works, the course introduces mythological approaches to such subjects as heroism, place, time, family and human nature and discusses the relationship between mythology and other

more limited human studies, including religion, psychology, history and sociology. 3 class hours per week.

EN8882 Literature: Women's Lives

Recorded and Imagined: A 1-semester course; 3 credit hours. A study of women's lives, primarily in women's words, through biography, autobiography, journals, letters and fiction. Includes, as written materials permit, women from all walks of life: famous, infamous and previously unknown, exploring both historic and imaginative limits set on women's selfhood. Students will develop critical perspectives on uses of literary sources and will apply what they learn to contemporary women's lives. 3 class hours per week.

EN8883 Women in Literature and Life:

A 1-semester course; 3 credit hours. A study of literary and historical accounts of women in courtly society - late Middle Ages through early Renaissance - and in democratic society - 1890 to 1970 - for the purpose of tracing the cultural influence of an idea, the idea of courtly love, on literature and life. 3 class hours per week.

EN8884 Literature: Twentieth Century Women in Film: A 1-semester course; 3

credit hours. Offers the student an examination of the multiple views of woman as seen through the cinema. Looking at examples from literature and film, the student will be exposed to the varied attitudes toward self, beauty, socialization, exploitation and destiny of the twentieth-century woman. It is suggested that the student take EN8883 Women in Literature and Life prior to this course, but it is not mandatory. 2 class hours and 2 lab hours per week.

EN8885 Literature: The Art of the

Movies: A 1-semester course; 3 credit hours. This course will attempt to foster critical taste in film. Students will explore the role of film in contemporary society by viewing and discussing documentaries, experimental films, impressionistic films, animated films and commercial films. Discussion and analysis will acquaint the student with the interrelationship of film technique and content. 2 class and 2 lab hours per week.

EN8891 Literature: Introduction to Poetry: A 1-semester course; 3 credit hours. Designed to acquaint the student with the various forms and scope of poetry. This course is to be an overview of the concept of poetry. 3 class hours per week.

EN8894 The Short Story: A 1-semester course; 3 credit hours. Stresses close critical reading and discussion of selected short stories written by nineteenth and twentieth century authors from around the world, with special emphasis on works by American writers. 3 class hours per week.

ELECTRONICS

ET6000 Mathematical Methods for Engineering and Computer Science: A 1-semester course; 1 credit hour. A course covering selected topics necessary for engineering and computer science. Topics include, but are not limited to, complex numbers, linear equations and their solution by determinants and matrices. 1 class hour per week. Not open to students who have taken MA5622.

ET6111 Introduction to Electric Circuits: A 1-semester course; 4 credit hours. DC circuits, including Ohm's Law, Kirchhoff's Laws, series circuits, parallel circuits, series-parallel combinations; capacitance, inductance, transients in RC and RL circuits; AC circuits, including sinusoids, phasors, use of complex numbers to solve RLC circuits, resonance and transformers; network analysis, including loop equations, nodal equations, Thevenin's and Norton equivalent circuits and superposition. Not applicable to a degree in Electronic Technology. 3 class hours and 1 3-hour lab per week.
Prerequisite: MA5621 or MA5621 concurrently.

ET6112 Analog Electronics for Computers: A 1-semester course; 3 credit hours. Selected topics in analog electronics necessary for servicing digital computer systems. Topics include semiconductor diodes, power supplies including regulators, transistors and their applications as amplifiers, switches and drivers. 2 class hours and 3 lab hours per week.
Prerequisite: ET6111 Introduction to Electric Circuits; MA5687 Contemporary

Math for Electronics.

ET6113 Introduction to Electronics: A 1-semester course; 1 credit hour. A basic course introducing the student to electronics, the course covers elementary circuitry, the relationship of voltage and current, scientific notation, simple amplification, radio and television systems, explanation of the oscilloscope, resistor combinations and power, meters, inductors, capacitors, and semi-conductors. 2 class hours per week. **Prerequisite:** MA0030 Basic Algebra or permission of instructor.

ET6600 Engineering Drafting: A 1-semester course; 3 credit hours. The application of the basic skills needed to make and read sketches and drawings. Students will use drafting instruments and will learn to perform the operations of the trade including the inspection of the completed work. The course will include lettering, sketching, and dimensioning with applications in sectioning and views of primary and secondary engineering drawings. 1 class hour and 4 lab hours per week.

ET6601 Engineering Design Graphics: A 1-semester course; 2 credit hours. This course stresses communication by graphical or pictorial means. Lettering, graphics sketching, orthographic projection, auxiliary views, dimensioning and descriptive geometry principles are topics covered. Neatness is emphasized throughout. 1 class hour and 2 lab hours per week.

ET6603 Digital Laboratory: A 1-semester course; 1 credit hour. Proper interconnection of TTL integrated circuits. Experiments in digital logic circuits using gates, flip-flops, counters, etc. 1 3-hour lab per week. **Prerequisite:** Fundamentals of Digital Logic to be taken concurrently or previously.

ET6611 Circuit Analysis I: A 1-semester course; 4 credit hours. Introduction to the analysis of electric circuits using DC sources. Applications of Kirchhoff's Voltage and Current Laws, superposition, loop analysis, nodal analysis and Thevenin's Theorem. 3 class hours and 3 lab hours per week. **Prerequisite:** MA5621 to be taken concurrently or previously.

ET6612 Circuit Analysis II: A 1-semester course; 4 credit hours. Extension of the theorems developed in ET6611 as they apply to circuits excited by sinusoidal sources. Energy considerations, storage of energy, RMS determinations and transformers. 3 class hours and 3 lab hours per week. **Prerequisite:** ET6611 and MA5621.

ET6641 Robotics I: A 1-semester course; 3 credit hours. A course in robot fundamentals using the foundation of commercial kits. Includes AC and fluidic power, platform mobility, DC power and positioning, manipulator areas of motion, on board logic probe, manual controls of a DC motor with interaction of microprocessor controller. 2 lecture hours and 3 lab hours per week. **Prerequisite:** ET6690 Microcomputers.

ET6642 Robotics II: A 1-semester course; 3 credit hours. A continuation of Robotics I including voice synthesis, interfacing and industrial robots language sensors and sound, and robots in work. 2 lecture hours and 3 lab hours per week. **Prerequisite:** ET6641 Robotics I.

ET6651 Engineering Mechanics I - Statics: A 1-semester course; 3 credit hours. Development of fundamental concepts of mechanics such as vectors, forces and moments. Detailed treatment of free body diagrams and their application to force systems. Laws of static equilibrium, friction forces, first and second moments, and problems involving various structures and machine parts. Methods of solution will include vector analysis, matrix methods and computer-aided analysis. 3 class hours per week. **Prerequisite:** PI5623 and MA5692 or equivalent. MA5692 may be taken concurrently.

ET6652 Engineering Mechanics II - Dynamics: A 1-semester course; 3 credit hours. Basic laws of kinematics of particles and rigid bodies involving linear, angular, relative and absolute motion. Newton's Laws and their application to the kinematics of rigid bodies in translation, rotation and plane motion; and the principles of work, kinetic energy, impulse and momentum. Methods of solution will

include vector analysis, matrix methods and computer-aided analysis. 3 class hours per week. **Prerequisite:** ET6651.

ET6661 Networks I: A 1-semester course; 5 credit hours. Introduction to general network solutions employing mathematical models and topology. The study of circuit analysis employing Kirchhoff's laws, Thevenin's Theorem, Norton's Theorem, superposition and maximum power theorems, is emphasized. 4 class hours and 4 lab hours per week. **Prerequisite:** MA5693 to be taken concurrently or previously.

ET6662 Networks II: A 1-semester course; 5 credit hours. Sinusoidal analysis of circuits employing phasor analysis. Sinusoidal steady state response found by nodal, mesh, superposition, source transformations. Thevenin's Theorem and phasor diagrams are explained. RMS values and average power and complex power is studied in detail. Major emphasis is placed on analysis using complex frequency (S-Plane). This would include frequency response of RL, RC, and RLC circuits (including resonance). The remainder of the course deals with two port network parameters and Fourier series analysis. 4 class hours and 3 lab hours per week. **Prerequisite:** ET6661, MA5685 concurrently.

ET6672 Electronics I: A 1-semester course; 5 credit hours. A first course beginning with introductory semi-conductor physics and semi-conductor devices. Biasing and stability of devices and small signal models of same. Applications of semi-conductors in rectifiers and amplifiers. Field effect transistors. 4 class hours and 1 3-hour lab per week. **Prerequisite:** ET6611, ET6612 concurrently, or ET6111.

ET6673 Electronics II: A 1-semester course; 5 credit hours. The analysis of the behavior of multistage amplifiers, power amplifiers, tuned circuit amplifiers, feedback amplifiers and oscillators. Integrated circuits, including differential and operational amplifiers and voltage regulators. 4 class hours and 1 3-hour lab per week. **Prerequisite:** ET6672.

ET6682 Digital Electronics: A 1-semester course; 4 credit hours. A study of traditional logic design as well as newer techniques utilizing MSI and LSI. Both combinational logic and sequential logic are covered including registers and counters. Also included is an introduction to memory and programmed logic. 3 class hours and 1 3-hour lab per week. **Prerequisite:** ET6612 or ET6111, ET6672, CT6601.

ET6684 Electronic Systems: A 1-semester course; 4 credit hours. Types and characteristics of electronic systems. Introductory system analysis. Transducers and other system components. Integrated circuits including operational amplifiers, multipliers, D/A and A/D converters, phase locked loops. Applications of the above in communication and instrumentation systems. 3 class hours and 1 3-hour lab per week. **Prerequisite:** ET6612, ET6672.

ET6690 Microcomputers: A 1-semester course; 4 credit hours. Introduction to microprocessors including basics of the CPU, timing and addressing instruction sets, assembly language programming, memory, input/output techniques, interfacing. 3 class hours and 3 lab hours per week. **Prerequisite:** CT6601.

FINE ARTS

FA7012 Introduction to the Creative Experience: A 1-semester course; 3 credit hours. This course is designed to introduce methods, materials and meaning of the arts to those who are involved in developmental programs - childhood to adulthood. It is the way to explore the world through non-verbal experiences which are personal to each one. Emphasis is placed on spontaneity, imagination, invention and flexibility of each student. 3 class hours per week.

FA7020 Introduction to the Creative Arts: A 1-semester course; 3 credit hours. An interdisciplinary approach to the arts with emphasis on both the experience of the arts and theory. The course is designed to give students an overview of all the arts by emphasizing the actual experience of dance, theatre, art and music. It is intended

to give the student a strong sense of the enjoyment, excitement and pleasure that the arts can provide. 3 class hours per week.

FA7051 Introductory Photography: A 1-semester course; 3 credit hours. This course combines basic theory and practice. It covers camera controls, exposure, flash and artificial light, composition, and black and white darkroom techniques. Much of the material on the camera and aesthetics also applies to color photography. Students will need an adjustable 35mm camera. 2 class hours and 2 lab hours per week.

FA7052 Intermediate Photography: A 1-semester course; 3 credit hours. Advanced techniques and projects in both black and white, and color photography. Emphasis is on photographic self-expression and communications including publishing, exhibiting and commercial use of photographs. Topics include advanced printing controls, studio techniques, photojournalism, color printing, high contrast techniques and portraiture. Students may pursue one individual study topic. 2 class hours and 2 lab hours per week. **Prerequisite:** Introductory Photography or permission of the instructor.

FA7080 Color and Design: A 1-semester course; 3 credit hours. This foundation course will look at color through its physical properties as well as its expressive functions. The class will explore the properties of value, hue and intensity. The student will deal with problems in manipulating color as well as mixing it. Concern will be for the process of taking a color concept from ideas to finished forms. There will be emphasis on clarity of concept through quality of craftsmanship. 2 class hours and 2 lab hours per week.

FA7081 Introduction to Art: Theory and Practice: A 1-semester course; 3 credit hours. Discussion and evaluation of all types of visual works of art. The class will deal with such questions as: What is Art? What is the role of Beauty in the definition of Art? How does one evaluate a work of Art? What is Creative Process? Who is the Creative Person? 3 class hours

per week.

FA7083 Art Workshop I: Painting and Drawing: A 1-semester course; 3 credit hours. An introduction and an exposure to various materials which have the potential for two-dimensional expression. Emphasis will be on experiencing new materials and the inherent properties of these materials as well as examining the problems involved in creating a two-dimensional "composition". All materials shall be provided by the student. 2 class hours and 2 lab hours per week.

FA7084 Art Workshop II: Painting and Drawing: A 1-semester course; 3 credit hours. An introduction to composition and structure in two dimensions. Emphasis will be placed on exploring the relationship between FORM and SPACE on the flat surface. Having come to some understanding of the potential of various materials, the student will then focus on using those materials to create compositions that involve a more complex analysis of space and form. The various visual elements of position, size, shape, line, color density, texture and space will be analyzed as to their function in a particular composition. 2 class hours and 2 lab hours per week. **Prerequisite:** FA7083.

FA7089 Dance Pedagogy: A 1-semester course; 3 credit hours. This is a course for prospective teachers of dance or for those preparing for a second career. Topics of study will include dance theory, prevention of dance injuries, and teaching methods for a wide variety of levels. An additional minimum of 12 hours of teaching, on or off campus, will be required. 3 class hours per week.

FA7090 Dance Repertory: A 1-semester course; 3 credit hours. A rehearsal format along with work on technique, this course will encompass traditional, modern, jazz and ballet repertoire and require participation in two performances. 4 class hours per week. **Prerequisite:** Dance in Performance and permission of the instructor.

FA7091 Dance in Performance: A 1-semester course; 3 credit hours. The course will include a review of the basic

techniques of Modern Dance, advance to more involved training in technique, movement and improvisation, and focus on the principle of dance production. Students will be introduced to production areas such as choreography, programming, costuming, lighting, public relations, audio-visual, special effects and budget, and they will participate in the final performance of the semester. Stillpoint, given for the community. 3 class hours per week.

FA7094 Dance Composition: A 1-semester course; 3 credit hours. The course is designed to provide students with a broad perspective on movement, choreography and composition, through the study of dance history and various choreographic techniques. Students will have the opportunity to create and perform their individual works in a student performance to be given at the end of the semester. 3 class hours per week.

FA7096 Introduction to Graphic Design: A 1-semester course; 3 credit hours. An introductory course to develop basic skills in design, color and concepts of visual communication from rough idea to final presentation for commercial reproduction. Consideration will be given to the tools and media used in advertising design, layout and paste-up, and specific problems in graphic design including lettering and typography. 2 class hours and 2 lab hours per week.

FA7097 Intermediate Graphic Design: A 1-semester course; 3 credit hours. The course will focus on basic graphic design skills applied to commercial reproduction, with attention to the function of advertising in our society. Effective use of image, lettering and color in layout and design will be a primary consideration. Specific areas covered include logo and corporate identity, graphic illustration of book jackets and record covers, product labeling, brochures, and others. 2 class hours and 2 lab hours per week.

FA7098 Illustration: A 1-semester course; 3 credit hours. The aim of the course is to give exposure to a variety of media used in commercial illustration, as well as to the different types of illustration including book,

ewspaper and current event. Developing drawing skills will be an integral part of the course. The history of illustration will be presented in order to understand it as communication from concept to finished product. 2 class hours and 2 lab hours per week.

FINANCE

FI3652 Business Finance: A 1-semester course; 3 credit hours. Principles and practices of business finance. The short and long term sources of funds, management of financial assets, capital requirements, alternative forms of financing and the capital market. Some use of case study method. 3 class hours per week.

Prerequisite: AC6602

FI6651 Principles of Insurance: A 1-semester course; 3 credit hours. Study of the principles of risk management and how insurance handles risk. The concept of risk management is outlined. Insurance coverages for the following are studied: property, liability, life and health. 3 class hours per week.

FI6663 Principles of Real Estate: A 1-semester course; 3 credit hours. Survey of the various areas of real estate practice and the principles involved in the purchase, valuation and selling of real estate. 3 class hours per week.

FI6670 Real Estate Valuation: A 1-semester course; 3 credit hours. This course is specifically designed to serve as an introduction to real estate appraising. It will introduce the student to the basic framework of analysis available to appraise interests in real estate and explain the principles upon which they are based. The course deals with the three traditional appraisal methods used in the valuation process; i.e., the market data, cost and income methods. 3 class hours per week.

Prerequisite: FI6663 Principles of Real Estate.

FRENCH

FR4401/FR4402 Introductory French I & II: A 2-semester course; 3 credit hours

per semester. For students who have not completed two years of secondary school French or the equivalent as determined by the department. An introduction to the basic grammatical patterns of French. Speaking, reading and writing in the French language. 3 class hours per week.

FR4451/FR4452 Intermediate French I & II: A 2-semester course; 3 credit hours per semester. For students who have completed two or more years of secondary school French or the equivalent as determined by the department, or who completed FR4401 and FR4402 successfully. A continued study of FR4401 and FR4402 language skills, emphasizing the development of reading ability. 3 class hours per week.

FOOD SERVICE MANAGEMENT

FS6601 Introduction to the Food

Service Industry: A 1-semester course; 4 credit hours. An orientation to the food service industry; introduction to basic foods, equipment and tools; basic sanitation, safety and personal hygiene; fundamentals of cooking, baking and stewardship. Primarily lectures, demonstrations and field trips. 8 class hours per week.

FS6602 Food Service Operations I: A 1-semester course; 4 credit hours.

Preparation and production of quantity foods including refrigeration, handling, storing and sanitation. Dining room procedures and management, purchasing, food costing, inventory control. Primarily a laboratory and food production approach. 8 class hours per week.

FS6611 Food Service Operations II: A 1-semester course; 4 credit hours. Topics include menu planning and pricing, basic meats, fish and poultry, quantity control, merchandising and sales promotion, restaurant layout, equipment maintenance and repair. Primarily lectures and demonstrations. 8 class hours per week.

FS6612 Food Service Operations III: A 1-semester course; 4 credit hours. Specialty foods, gourmet dishes, catering operations, food service operations, advanced quantity

per week.

FA7083 Art Workshop I: Painting and Drawing: A 1-semester course; 3 credit hours. An introduction and an exposure to various materials which have the potential for two-dimensional expression. Emphasis will be on experiencing new materials and the inherent properties of these materials as well as examining the problems involved in creating a two-dimensional "composition". All materials shall be provided by the student. 2 class hours and 2 lab hours per week.

FA7084 Art Workshop II: Painting and Drawing: A 1-semester course; 3 credit hours. An introduction to composition and structure in two dimensions. Emphasis will be placed on exploring the relationship between FORM and SPACE on the flat surface. Having come to some understanding of the potential of various materials, the student will then focus on using those materials to create compositions that involve a more complex analysis of space and form. The various visual elements of position, size, shape, line, color density, texture and space will be analyzed as to their function in a particular composition. 2 class hours and 2 lab hours per week. **Prerequisite:** FA7083.

FA7089 Dance Pedagogy: A 1-semester course; 3 credit hours. This is a course for prospective teachers of dance or for those preparing for a second career. Topics of study will include dance theory, prevention of dance injuries, and teaching methods for a wide variety of levels. An additional minimum of 12 hours of teaching, on or off campus, will be required. 3 class hours per week.

FA7090 Dance Repertory: A 1-semester course; 3 credit hours. A rehearsal format along with work on technique, this course will encompass traditional, modern, jazz and ballet repertoire and require participation in two performances. 4 class hours per week. **Prerequisite:** Dance in Performance and permission of the instructor.

FA7091 Dance in Performance: A 1-semester course; 3 credit hours. The course will include a review of the basic

techniques of Modern Dance, advance to more involved training in technique, movement and improvisation, and focus on the principle of dance production. Students will be introduced to production areas such as choreography, programming, costuming, lighting, public relations, audio-visual, special effects and budget, and they will participate in the final performance of the semester, Stillpoint, given for the community. 3 class hours per week.

FA7094 Dance Composition: A 1-semester course; 3 credit hours. The course is designed to provide students with a broad perspective on movement, choreography and composition, through the study of dance history and various choreographic techniques. Students will have the opportunity to create and perform their individual works in a student performance to be given at the end of the semester. 3 class hours per week.

FA7096 Introduction to Graphic Design: A 1-semester course; 3 credit hours. An introductory course to develop basic skills in design, color and concepts of visual communication from rough idea to final presentation for commercial reproduction. Consideration will be given to the tools and media used in advertising design, layout and paste-up, and specific problems in graphic design including lettering and typography. 2 class hours and 2 lab hours per week.

FA7097 Intermediate Graphic Design: A 1-semester course; 3 credit hours. The course will focus on basic graphic design skills applied to commercial reproduction, with attention to the function of advertising in our society. Effective use of image, lettering and color in layout and design will be a primary consideration. Specific areas covered include logo and corporate identity, graphic illustration of book jackets and record covers, product labeling, brochures, and others. 2 class hours and 2 lab hours per week.

FA7098 Illustration: A 1-semester course; 3 credit hours. The aim of the course is to give exposure to a variety of media used in commercial illustration, as well as to the different types of illustration including book,

ewspaper and current event. Developing drawing skills will be an integral part of the course. The history of illustration will be presented in order to understand it as communication from concept to finished product. 2 class hours and 2 lab hours per week.

FINANCE

13652 Business Finance: A 1-semester course; 3 credit hours. Principles and practices of business finance. The short and long term sources of funds, management of financial assets, capital requirements, alternative forms of financing and the capital market. Some use of case study method. 3 class hours per week.

Prerequisite: AC6602

16651 Principles of Insurance: A 1-semester course; 3 credit hours. Study of the principles of risk management and how insurance handles risk. The concept of risk management is outlined. Insurance coverages for the following are studied: property, liability, life and health. 3 class hours per week.

16663 Principles of Real Estate: A 1-semester course; 3 credit hours. Survey of the various areas of real estate practice and the principles involved in the purchase, valuation and selling of real estate. 3 class hours per week.

16670 Real Estate Valuation: A 1-semester course; 3 credit hours. This course is specifically designed to serve as an introduction to real estate appraising. It will introduce the student to the basic framework of analysis available to appraise interests in real estate and explain the principles upon which they are based. The course deals with the three traditional appraisal methods used in the valuation process; i.e., the market data, cost and income methods. 3 class hours per week.

Prerequisite: FI6663 Principles of Real Estate.

FRENCH

FR4401/FR4402 Introductory French I & II: A 2-semester course; 3 credit hours

per semester. For students who have not completed two years of secondary school French or the equivalent as determined by the department. An introduction to the basic grammatical patterns of French. Speaking, reading and writing in the French language. 3 class hours per week.

FR4451/FR4452 Intermediate French I & II: A 2-semester course; 3 credit hours per semester. For students who have completed two or more years of secondary school French or the equivalent as determined by the department, or who completed FR4401 and FR4402 successfully. A continued study of FR4401 and FR4402 language skills, emphasizing the development of reading ability. 3 class hours per week.

FOOD SERVICE MANAGEMENT

FS6601 Introduction to the Food Service Industry: A 1-semester course; 4 credit hours. An orientation to the food service industry; introduction to basic foods, equipment and tools; basic sanitation, safety and personal hygiene; fundamentals of cooking, baking and stewardship. Primarily lectures, demonstrations and field trips. 8 class hours per week.

FS6602 Food Service Operations I: A 1-semester course; 4 credit hours. Preparation and production of quantity foods including refrigeration, handling, storing and sanitation. Dining room procedures and management, purchasing, food costing, inventory control. Primarily a laboratory and food production approach. 8 class hours per week.

FS6611 Food Service Operations II: A 1-semester course; 4 credit hours. Topics include menu planning and pricing, basic meats, fish and poultry, quantity control, merchandising and sales promotion, restaurant layout, equipment maintenance and repair. Primarily lectures and demonstrations. 8 class hours per week.

FS6612 Food Service Operations III: A 1-semester course; 4 credit hours. Specialty foods, gourmet dishes, catering operations, food service operations, advanced quantity

foods, preventative maintenance. 8 class hours per week.

FS6625 Food Service Management I: A
1-semester course; 3 credit hours.

Management aspects of food service operations. Topics include selecting a location, selecting a clientele, food service equipment, training employees, food cost control and beverage control. 3 class hours per week.

FS6626 Food Service Supervision: A 1-semester course; 3 credit hours. Principles of nutrition, food preparation and service, sanitation and safety as well as methods of planning and supervising the work of other people in the preparation of foods. This course, in conjunction with FS6601 Introduction to the Food Service Industry, will qualify students for certification for employment in food preparation in nursing homes. 3 class hours per week.

GEOGRAPHY

GE9511 Principles of Geography: A 1-semester course; 3 credit hours. A systematic study of the earth's physical, ecological, political and socio-economic patterns. The earth as a planet, its atmosphere, weather, climate and topography. Man's use of its many products and resources, how he exploits and ruins it, how he can maintain and restore it. 3 class hours per week.

GE9512 World Regional Geography: A 1-semester course; 3 credit hours. An area-by-area study of the different regions of the world. Each will be examined as to its history, its location, its physical and cultural attributes, and its relation to the part of the world. 3 class hours per week.

GERMAN

GM4401/GM4402 Introductory German I and II: A 2-semester course; 3 credit hours per semester. An adventure in German culture and communication. For students who have not completed two years of secondary school German or the equivalent as determined by the department. Audio-lingual emphasis.

Introduction to grammatical patterns, speaking, reading and writing. 3 class hours per week.

GM4451/GM4452 Intermediate German I and II: A 2-semester course; 3 credit hours per semester. A further exploration of German life and language. For students who have completed two or more years of secondary school German or the equivalent as determined by the department, or who have completed GM4401 and GM4402. A workshop approach to the development of reading, speaking, translation and composition skills. 3 class hours per week.

GERONTOLOGY

GR6556 Law, Advocacy and Aging: A 1-semester course; 3 credit hours. This course concentrates on building advocacy skills that will prepare students to be advocates and to advance the legal concerns of people with special needs, including the elderly. The course integrates training in specific legal procedures with an understanding of the legal system and the roles one can play in it. A workshop format will give students opportunities to explore areas of special interest. Included are introduction to the concept of advocacy, techniques and methods of advocacy and self-help, providing advocate services, nursing homes and legal systems that affect property rights and civil rights. 3 class hours per week.

GR6561 Gerontology Practicum I: A 1-semester course; 4 credit hours. The practicum is intended to provide the student with an opportunity to meet impaired elders and to put into practice theory learned in the classroom. Placement will be in an institutional setting, preferably a long-term care facility. The student will develop an understanding of the nursing home experience from the point of view of the resident or patient, the family and the facility staff. The class will meet weekly in a seminar format to discuss and work through problems and experiences encountered in the agency setting. 2 class hours and 8 practicum hours per week.

GR6562 Gerontology Practicum II: A 1-semester course; 4 credit hours. This

course is intended to provide the student with an opportunity to meet elders living in community, and to become more aware of the various programs available to them. Placement will be in a Council on Aging or similar agency under the direct supervision of a representative of the agency. The class will meet weekly in a seminar format to discuss problems and experiences encountered in the agency setting. 2 class hours and 8 practicum hours per week.

GOVERNMENT

GV3300 Introduction to Law: A 1-semester course; 3 credit hours. A survey of the structure, functions and development of the legal and judicial process with emphasis on legal concepts, terminology and case analysis. Attention will be given to historical background for Anglo/American practices. 3 class hours per week.

GV3301 U. S. Constitutional Law: A 1-semester course; 3 credit hours. Constitutional law is a formal body of rules which consist primarily of decisions and opinions of the U. S. Supreme Court. It is the study of factual background, both historical and contemporary, of major Supreme Court cases to gain an analytical framework by which to understand the standards and tests applied by the Court in reaching decisions. Emphasis is on U. S. Governmental structure and relationships, including relationships with state and local governments. 3 class hours per week.

Prerequisite: GV3300 or GV3312 or GV3313 or GV3314, (Introduction to Law or Introduction to Political Science or Federal Government or State and Local Government, respectively).

GV3312 Introduction to Political Science: A 1-semester course; 3 credit hours. A descriptive survey of the general principles of politics. Emphasis is given to the development of politics in society, the major political traditions and ideologies, and comparative governmental systems including institutions, political organization and behavior, and a select range of government policies. 3 class hours per week.

GV3313 The Federal Government: A 1-semester course; 3 credit hours. The structure, functions, and procedures of the legislative, judicial, and administrative branches of the Federal Government will be analyzed within the context of the Constitution of the United States. Emphasis will be given to the structure and function of the various branches of government as well as their interrelationships and the effects of other factors on their functions. 3 class hours per week.

GV3314 State and Local Government: A 1-semester course; 3 credit hours. The structure, functions, politics, and problems of state and local government will be dealt with in an attempt to become aware of the functions and operations of state and local government. Special emphasis will be given to the identification and definition of problem areas in an attempt to better understand the issues involved as well as to deal with possible solutions. 3 class hours per week.

GV3315 Civil Rights and Liberties: A 1-semester course; 3 credit hours. Course deals with the role of individual rights and liberties in American society within the framework of the United States Constitution. The paradox of freedom is essentially the core around which lectures, discussion and research will be conducted. It is advisable to take this course after having completed a course in federal government. 3 class hours per week.

Prerequisite: GV3301 U. S. Constitutional Law or GV3300 Introduction to Law or GV3312 Introduction to Political Science or GV3313 Federal Government or GV3314 State and Local Government or permission of the instructor.

HISTORY

HI9901 Western Civilization I: A 1-semester course; 3 credit hours. A survey of the major historical developments and trends in Western Civilization from the Fall of Rome to 1715, with emphasis on the formation and evolution of the social, political, economic, and cultural institutions of medieval and early modern Europe. 3 class hours per week.

HI9902 Western Civilization II: A 1-semester course; 3 credit hours. A survey of the major historical developments and trends in Western Civilization from 1715 to the present, with emphasis on the evolution of social, political, economic, cultural institutions in modern Europe. 3 class hours per week.

HI9903 Early Civilization: A 1-semester course; 3 credit hours. A survey of the major historical developments and trends in the rise of the West from their origins in the Ancient Near East through Classical Greece and Rome to the decline and fall of the Roman Empire and the rise and triumph of Christianity. Attention is given to the formation and evolution of social, political, and economic institutions as well as intellectual, religious, and cultural achievements. 3 class hours per week.

HI9913 U.S. History I: A 1-semester course; 3 credit hours. A survey of United States history from colonial times through the Civil War. Traces and development of political, social, cultural and economic institutions. 3 class hours per week.

HI9914 U.S. History II: A 1-semester course; 3 credit hours. A survey of United States history from reconstruction to the present. Examines political, social, cultural and economic institutions of the U.S. Focuses on the extension of those institutions through imperialism and the challenges to them by the depression and two world wars. 3 class hours per week.

HI9916 Recent U.S. History: A 1-semester course; 3 credit hours. Seminar on American history since World War II. Directed readings and emphasis on the major areas of recent national concern such as the "welfare state", foreign affairs, changes in American society, the "urban crisis" in the post-war years, etc. In addition, projects, the intent of which is to depict some perspectives on contemporary America, are assigned. 3 class hours per week.

HI9917 The Family in History: A 1-semester course; 3 credit hours. An analysis of the changes in the structure and functions of the family in Western Europe and America from the 16th century to the

present. Special emphasis will be placed upon the impact of industrialization and modernization upon the family and its individual members. 3 class hours per week.

HI9955 Minority Groups in America: A 1-semester course; 3 credit hours. Seminar on the contributions and difficulties of religious, racial, ethnic and other minority groups in the pluralistic American society from colonial times to the present. Particular attention will be given to the following groups: Catholic and Jewish, American Indian, Negro and Puerto Rican, and southern European and Oriental. Students will research, write and present individual reports. 3 class hours per week.

HI9956 American Foreign Policy: A 1-semester course; 3 credit hours. A survey of United States foreign affairs from revolutionary times to the present. Special emphasis on America's emergence as a world power and her relationship with Europe, Latin American and the Far East. Attention will be paid to the developing roles of the President and the State Department, Congress and international organizations in our foreign policy. 3 class hours per week.

HI9958 History of the Soviet Union: A 1-semester course; 3 credit hours. Study of Russia since the overthrow of the Czar in March 1917. Special emphasis is placed on the origin of Russian Communism, the role of Lenin and Stalin in adapting Communism to Russian conditions, the evolution of Communism since Stalin's death in 1953, and Soviet foreign policy, especially since World War II. 3 class hours per week.

HI9959 History of Latin America: A 1-semester course; 3 credit hours. A survey of the historical development of Latin America from the pre-conquest societies to the present time. Emphasis is placed on the contributions made by the Indian traditions, the European conquerors, and the fusion of these two elements in the years following independence. The relationship between the United States and Latin America will be given special attention. 3 class hours per week.

HS6710 History of Science & Technology: A 1-semester course; 3 credit hours. The study of the historical and philosophical development of science and technology and the practical consequences of discovery on the human activities. The course focuses on the examination of the interplay of science and technology with their social and intellectual impact through the ages. The course may be applied towards a social science or a natural science requirement. 3 class hours per week.

HS6710 Women's History: Giving the Majority Its Past: A 1-semester course; 3 credit hours. Women's experience has always made up half the past, thus, their lives and concerns are as important in the study of history as those of men. Introducing students of both sexes to admirable people, male and female is important, both for an understanding of what was possible and achieved in former times and what one can become in today's world, drawing on that past heritage. This course examines those cultural assumptions by which a society measures the significance of all our lives. What do our instructional institutions (family, church, schools and media) teach us about individual values: what is **expected** of a little girl when she grows up and a little boy when he matures? Are these expectations realistic or biased? Does a double standard of income, morality and opportunity still exist? Women's history raises such questions and offers a challenge to teachers and students alike. The particular emphasis on period and culture will be determined by the instructor. 3 class hours per week.

HEALTH SERVICES

S6651 Introduction to Health Services: A 1-semester course; 3 credit hours. A survey course to provide the student with a comprehensive overview of the health care delivery system and its integration with the community. Some of the topics to be covered are orientation to health professions, organizational patterns in health care, financing of health care, proposed state and federal legislation and

medico-legal standards. Field trips and guest lecturers will be utilized. 3 class hours per week.

HS6710 Emergency Medical Technician: A 1-semester course; 7 credit hours. Specialized training for employees or volunteer members of public or private organizations having a responsibility for delivery of emergency care. The course is conducted by the college in cooperation with the Merrimack Valley Emergency Medical Council, Inc. Training areas covered will be respiration and resuscitation; medical and environmental emergencies, including unscheduled childbirth; injuries to the skull, brain, neck and spine; and bleeding, wounds and shock. Students must pass this course in order to be eligible to take the State Registry Exam for Emergency Medical Technicians. 7 class hours per week.

HUMANITIES

HU3111 Humanities: A 1-semester course; 3 credit hours. An interdisciplinary course for students in the Discovery Program only. The course shall focus on some of the systems of thought and basic operational procedures applied by natural and social scientists in explaining natural and socio-political phenomena. 3 class hours per week.

HU4000 Introduction to Humanities: A 1-semester course; 3 credit hours. Through thematically selected works of literature, film, music, art, religion, and philosophy, this team-taught course focuses on the individual's concept of self (identity, purpose, goals, destiny) and the individual's relationship to community (ethics, values, justice) as explored in the traditional and non-traditional intellectual and artistic heritage of humanity. 3 class hours per week.

HU4011 Art, Math and Nature: A 1-semester course; 3 credit hours. This team-taught course, a joint venture of Bradford College and Northern Essex, explores the connections and relationships that exist in the world of nature, the world of forms and the world of ideas. It also examines the use

of mathematics as an artistic tool for both two and three dimensional design. 3 class hours per week.

INTERPRETER TRAINING

IN0010 Basic Sign Communication I: A 1/2-semester course; 1 credit hour.

Designed to present the basic fundamentals of Sign Communication. Visual, gestural communication, basic sign vocabulary, the manual alphabet, and general information related to deafness will be covered. 2 class hours per week.

IN0011 Basic Sign Communication II: A 1/2-semester course; 1 credit hour.

Designed to be a continuation of Basic Sign I. There will be increased focus on Sign vocabulary, fingerspelling, and conversational sign communication. 2 class hours per week. **Prerequisite:** Basic Sign Communication I with a grade of C or better or permission of the coordinator.

IN0012 Basic Sign Communication III:

An 8-week course; 1 credit hour. Designed to be a continuation of Basic Sign Communication II. There will be a review of previous material and introduction of complex grammatical constructions in ASL. Classroom activities will focus on expressive skill and conversation fluency. 2 class hours per week. **Prerequisite:** Basic Sign Communication II with a grade of C or better or permission of the instructor.

IN0013 Basic Sign Communication IV:

An 8-week course; 1 credit hour. Designed to be a continuation of Basic Sign Communication III. There will be a review of previous material and further study of complex grammatical constructions in ASL. Classroom activities will focus on expressive skill and conversation fluency. 2 class hours per week. **Prerequisite:** Basic Sign Communication III with a grade of C or better or permission of the instructor.

IN1001 Sign Language I: A 1-semester course; 4 credit hours. Includes information about the history of sign language and how it exists in society today. Skill focus is on receptive and expressive sign language communication. Laboratory activities and outside assignments are designed to develop competence in sign vocabulary use

within specific grammatical construction. 3 class hours and 3 lab hours per week.

Prerequisite: Permission of the coordinator.

IN1002 Sign Language II: A 1-semester course; 4 credit hours. Involves further exploration of sign language. Laboratory activities and outside assignments focus on developing receptive and expressive ability in the grammar studied, fingerspelling, and competence in signed narratives, directed discussions, and signed deliveries on self-chosen topics. 3 class hours and 3 lab hours per week. **Prerequisite:** Sign Language I or Basic Sign Communication I, II, III and IV with a grade of C or better or comparable knowledge and skill and permission of the coordinator.

IN1010 Orientation to Deafness: A 1-semester course; 3 credit hours. An introductory course examining various aspects of deafness. Information about the hearing mechanism, hearing disorders, audiological assessment, types of educational settings and rehabilitation recommended. Various professions within the field of deafness, legislation impacting the field of deafness, and current events and activities occurring related to the field of deafness will be presented and discussed. 3 class hours per week.

IN1030 Introduction to the Interpreting Field: A 1-semester course; 3 credit hours. Provides general information about the field of interpreting; stressing the importance of a professional attitude toward interpreting, especially as developed through observance of ethical standards. Understanding these aspects of interpreting is enhanced through participation in an observation practicum. 3 class hours per week. **Prerequisite:** Basic knowledge about sign communication and permission of the coordinator.

IN1040 Introduction to Practicum: A 1-semester course; 1 credit hour. Emphasizes the important aspects of professional interpreting (e.g., physical factors, mode of communication employed, professional attitude and approach to assignment, etc.). The field experience will provide both the opportunity to observe material discussed in the classroom and to participate in actual

interpreting situations. 1 classroom seminar plus 3 field hours per week. **Prerequisite:** Should be taken in conjunction with Introduction to the Interpreting Field or with coordinator's approval.

N2003 Sign Language III: A 1-semester course; 4 credit hours. Designed to refine and build sign language competence in and performance of all grammatical features and sign variations covered in previous courses. Receptive and expressive abilities developed through exposure to selected stylistic, regional, social, ethnic, socially restricted, and age related sign language renditions. Laboratory activities and outside assignments focus on systematically integrating previous course work. 3 class hours and 3 lab hours per week.

Prerequisite: Sign Language II with a grade of C or better or comparable knowledge and skill and permission of the coordinator.

N2031 Interpreting: A 1-semester course; 3 credit hours. Designed to develop a broad base of competency and performance skills in transliterating and interpreting. Emphasis is on an in-depth study of the principles of interpreting and their incorporation into specific interpreting situations. 3 class hours per week. **Prerequisite:** Introduction to the Interpreting Field, Sign Language II with a grade of C or better and simultaneous enrollment in Sign Language III or comparable knowledge and permission of the coordinator.

N2033 Advanced Interpreting: A 1-semester course; 4 credit hours. Involves further emphasis on developing competency and skills in transliterating and interpreting. A variety of learning activities aimed at strengthening interpreting techniques are conducted. 3 class hours and 3 lab hours per week. **Prerequisite:** Introduction to the Interpreting Field, Interpreting and Sign Language III with a grade of C or better or comparable knowledge and skill and permission of the coordinator.

N2039 Practicum I: A 1-semester course; 3 credit hours. Emphasizes the means for successful performance in professional interpreting situations. Field experience allows students to put theory into practice

by providing opportunities for participation in various interpreting settings. 1 class hour plus 8 field hours per week. **Prerequisite:** Introduction to the Interpreting Field, Introduction to Practicum and simultaneous enrollment in Interpreting and coordinator's approval.

IN2041 Practicum II: A 1-semester course; 3 credit hours. Provides advanced students with the opportunity to function in actual interpreting situations with professional advice and support. This supervised work experience is to be the final phase of preparation prior to entry into the field of professional interpreting. 1 class hour plus 8 field hours per week.

Prerequisite: Introduction to the Interpreting Field, Introduction to Practicum, Practicum I and simultaneous enrollment in Advanced Interpreting and coordinator's approval

LAW

LW6651 Business Law I: A 1-semester course; 3 credit hours. Introduction to law and its development. The law of contracts and its elements. The law of agency and its application to business. 3 class hours per week.

LW6652 Business Law II: A 1-semester course; 3 credit hours. A continuation of LW6651, developing a basic understanding and application of the Uniform Commercial Code involving negotiable instruments, sales, banking, partnerships, corporations, and estates and trusts. 3 class hours per week. **Prerequisite:** LW6651

LW6653 Real Estate Law: A 1-semester course; 3 credit hours. This course is designed to introduce the student to the fundamentals of real estate law and practice. The content will develop antecontractual considerations, suggested forms and content of a real estate contract, closing requirements, and title searches and provisions. Emphasis will be placed on title abstracting and on residential closing procedures in order to enable the student to prepare independently a title abstract and all closing papers ready for the attorney's review. Strongly recommend that

students take GV3300 Introduction to Law prior to or simultaneously with this course. 3 class hours per week. **Prerequisite:** LW6660 Legal Research and Drafting. Students not enrolled in the Paralegal degree program need permission of the Program Coordinator to enroll in this course.

LW6660 Legal Research & Drafting: A 1-semester course; 3 credit hours. The purpose of this course is to introduce the student to use of the law library and legal materials including law review articles and legal encyclopedias. The student will receive practical experience in research and preparation of case briefs and memoranda on legal issues with emphasis on the laws of the Commonwealth of Massachusetts and its court system. Limited to 20 students per section. 3 class hours per week.

LW6661 Litigation: A 1-semester course; 3 credit hours. This course is designed to provide the student with background in the structure, jurisdiction and procedure of the state and federal courts. Students will learn to interview clients, research and investigate facts, prepare motions and other litigation materials and become familiar with discovery procedures available under the Rules of Procedure and Rules of Evidence. Students must take LW6660 Legal Research & Drafting prior to or simultaneously with this course. It is strongly recommended that GV3300 Introduction to Law I be taken prior to this course. 3 class hours per week.

LW6662 Wills, Estates, & Trusts: A 1-semester course; 3 credit hours. This course is designed to introduce the student to a survey of estate administration, the proper court, and probate proceedings, including wills (probate and administration), distribution, descent, fiduciary accounting, and many different kinds of trusts. It is strongly recommended that GV3300 Introduction to Law be taken prior to or simultaneously with this course. 3 class hours per week. **Prerequisite:** LW6660 Legal Research & Drafting. Students not enrolled in the Paralegal degree program need permission of the Coordinator to enroll in this course.

LW6663 Corporate Law: A 1-semester course; 3 credit hours. This course treats corporation formation and structure, stockholders' and directors' meetings, corporate financing (stock and other securities, charter amendments and changes in corporate structure), reorganization, dissolution, liquidation, employment and compensation. Students will acquire functional skills including preparing articles of incorporation, satisfying state filing requirements, preparing necessary documentation for mergers and new acquisitions, and preparing registration materials for regulatory agencies. It is strongly recommended that GV3300 Introduction to Law be taken prior to or simultaneously with this course. 3 class hours per week. **Prerequisite:** LW6660 Legal Research & Drafting. Students not enrolled in the Paralegal degree program need permission of the Coordinator to enroll in this course.

LW6664 Domestic Law: A 1-semester course; three credit hours. This course is designed to teach the student to handle sensitive client interviews and to draft the pleadings necessary to the general practice of domestic law. The student should learn and understand procedures and practices relating to parental prerogatives, marriage, separation, divorce, custody and support, adoption and guardianship, and be able to draft the pleadings and do preliminary research pertaining to these aspects of family law. It is strongly recommended that GV3300 Introduction to Law be taken prior to or simultaneously with this course. 3 class hours per week. **Prerequisite:** LW6660 Legal Research & Drafting. Students not enrolled in the Paralegal degree program need permission of the Coordinator to enroll in this course.

LW6665 Taxation: A 1-semester course; credit hours. This course is designed to introduce the student to the historical development of federal tax law and the underlying rationale for U.S. and state tax systems. Tax concepts as they relate to procedural and substantive aspects for filing and executing individual, corporate, partnership and fiduciary tax returns

income, estate and gifts) will be discussed. Abstracting data for tax audits, appellate procedures and judicial determination, as well as updates to reflect changes in the tax law are included. (This is not a tax preparation course.) It is strongly recommended that GV3300 Introduction to Law be taken prior to or simultaneously with this course. 3 class hours per week. **Prerequisite:** LW6660 Legal Research & Drafting and LW6663 Corporate Law. Students not enrolled in the Paralegal degree program need permission of the Coordinator to enroll in this course.

MATHEMATICS

NOTE: For all mathematics courses involving prerequisites it is recommended that the student earn a C or better in the prerequisite course before attempting the next course in the sequence.

MA020 Basic Mathematics: A 1-semester course; 3 credit hours. The course is designed to provide basic mathematics skills required in other courses. Topics include a complete review of arithmetic and an introduction to algebra and geometry, emphasizing practical applications. This course may not be used to satisfy the mathematics requirements for the associate degree in Liberal Arts. Students select either a lecture or dependent study option. Either option meets 3 class hours per week.

MA030 Basic Algebra: A 1-semester course; 3 credit hours. The course is designed to prepare students for other courses which require basic skills in algebra and will include, whenever facilities permit, hands-on experience in the microcomputer lab. Topics include integers, linear and quadratic equations, factoring, exponents and radicals, algebraic fractions, linear systems and word problems. This course may not be used to satisfy the mathematics requirement for the associate degree in Liberal Arts. 2 class hours and 2 lab hours per week. **Prerequisite:** Basic arithmetic competency.

MA0500 Mathematics for Early Childhood Education: A 1-semester course; 3 credit hours. A mixture of teaching methods and content, this course explores various mathematical concepts developed during early childhood. Topics include shape, pattern recognition, sorting, graphing, comparing, measuring, reasoning, counting, number and place value. Emphasis is given to concrete activities and materials which promote or help diagnose understanding of these activities among children. The course may also include a review of personal arithmetic skills and a term project requiring activity with children. This course may not be used to satisfy the math requirement for the Liberal Arts degree. 3 class hours per week.

MA0501 Developmental Mathematics: A 1-semester course; three credit hours. A review for students in the Discovery Program only, of arithmetic and an introduction to algebra, including formula evaluation, linear and quadratic equations, graphs, set theory, etc. This course does not satisfy any of the degree requirements for the Liberal Arts degree. 5 class hours per week.

MA0551 Basic Geometry: a Lab Course: A 1-semester course; 1 credit hour. The course is designed as an introduction for students with a limited background in the basic concepts of Geometry. Topics include lines, triangles, circles, areas of plane figures, parallelograms and volumes. All students must attend the individualized lab sessions a minimum of 2 hours per week. However, the number of extra hours that any particular student spends in the lab is dependent on his beginning skills level.

MA5500 Intermediate Algebra: A 1-semester course; 3 credit hours. The course is designed as a sequel to Basic Algebra or as a first course for students who have had at least one year of high school algebra. It will prepare students for Quantitative Methods and the Calculus for Business/Social/Life Sciences sequence as well as for the higher-level courses in algebra and trigonometry. Topics include a review of Basic Algebra, fractional

equations, radical equations, functions, logarithmic and exponential functions. This course will not satisfy the mathematics requirement for Engineering and Technology programs nor may it be used as an elective in Engineering and Technology. 3 class hours per week.

Prerequisite: One year of high school algebra or a C or better in Basic Algebra.

MA5506 Statistics: A 1-semester course; 3 credit hours. Set theory approach to probability. Descriptive statistics. Probability distributions. Sampling inferences from statistics. Hypothesis testing. Linear regression and correlation. 3 class hours per week. **Prerequisite:** One year of high school algebra or consent of instructor.

MA5512 Mathematics for Elementary Education: A 1-semester course; 3 credit hours. A mixture of content and teaching methods, this course explores in detail various mathematical concepts which are normally taught in elementary school. Emphasis is given to concrete materials and to applications of mathematics to the real world. The course may also include a review of personal arithmetic skills and a term project requiring activity with children. This course may not be used to satisfy the math requirement for the Liberal Arts degree. 3 class hours per week.

MA5520 Liberal Arts Mathematics I: A 1-semester course; 3 credit hours. This course is designed to develop an appreciation of mathematics by exploring areas which are of interest to the liberal arts student. The instructor will choose topics from a wide variety of areas such as mathematical logic, set theory, number systems, consumer mathematics, and geometry. The course will also include a review of basic arithmetic skills. 3 class hours per week.

MA5525 Liberal Arts Mathematics II: A 1-semester course; 3 credit hours. The objectives are similar to those of Liberal Arts Mathematics I. Liberal Arts Mathematics II is designed to allow the student to explore some of the interesting and useful aspects of mathematics. The instructor will choose topics from a wide

variety of areas such as probability, statistics, topology, fourth dimension, philosophy of mathematics and computer programming. 3 class hours per week.

MA5613 Mathematics of Finance: A 1-semester course; 3 credit hours. The mathematics used in business transactions. This course may not be used to satisfy the math requirement for the associate degree in Liberal Arts. 3 class hours per week.

MA5621 College Algebra & Trigonometry: The first course in a 2-semester sequence; 4 credit hours. This course and its sequel MA5622 are intended as preparation for the calculus sequence MA5690, MA5692, MA5693. Topics are selected from algebra and introductory trigonometry. 4 class hours per week or 3 class hours plus a 2-hour problem session per week. **Prerequisite:** Two years of high school algebra or MA5500 or equivalent.

MA5622 Advanced Algebra & Trigonometry: The second course in a 2-semester sequence; 4 credit hours. A continuation of MA5621. Advanced topics in algebra and trigonometry are covered. 4 class hours per week or 3 class hours plus a 2-hour lab per week. **Prerequisite:** MA5621 or equivalent.

MA5650 Technical Mathematics: A 1-semester course; 4 credit hours. Basic concepts of arithmetic and algebra are integrated with the use of electronic calculators in this course designed for the person who wishes to pursue a technical curriculum. Topics include fractions, decimal fractions, the metric system, measurement and tolerance, polynomials, equations and formulas, ratio and proportion. Also included are selected topics from geometry and trigonometry. 4 class hours per week. Limited to students taking Printed Circuit Technology courses.

MA5651 Calculus for Technology: A 1-semester course; 4 credit hours. For students enrolled in a technology curriculum. The course covers limits and differentiation and integration of algebraic exponential, logarithmic and trig functions, applications to maximum-minimum, related rates, acceleration, area, volume and curve sketching problems. Other topics include

integration by parts, substitution methods and use of integral tables. 4 class hours per week. **Prerequisite:** MA5622 or equivalent.

MA5667 Introduction to Finite

Mathematics: A 1-semester course; 3 credit hours. Primarily for students in business programs, this course includes an introduction to probability, statistics, game theory, linear programming, and computers. 3 class hours per week.

MA5673 Quantitative Methods for

Business/Social/Life Sciences: A 1-semester course; 3 credit hours. Topics included in this algebra-based course are matrices, linear systems of equations and inequalities, linear programming, probability, decision theory and statistics. Special emphasis is given to applications in business, social and life sciences. 3 class hours per week. **Prerequisite:** MA0030 or two years of high school algebra.

MA5675 Calculus I for

Business/Social/Life Sciences: The first course in a 2-semester sequence; 3 credit hours. Topics included in this algebra-based course are polynomial, exponential and logarithmic functions, limits and differentiation. Special emphasis is given to applications in business, social and life sciences. 3 class hours per week.

Prerequisite: Two years of high school algebra, MA5500 or equivalent.

MA5676 Calculus II for

Business/Social/Life Sciences: The second course in a 2-semester sequence; 3 credit hours. A continuation of MA5675.

This course includes techniques of integration, differential equations and multi-variable functions. 3 class hours per week.

Prerequisite: MA5675.

MA5685 Differential Equations: A 1-semester course; 4 credit hours.

Fundamentals of ordinary linear differential equations. LaPlace Transforms, numerical methods of solutions, etc. 4 class hours per week. **Prerequisite:** C or better in MA5693 or equivalent.

MA5687 Contemporary Math for

Electronics: A 1-semester course; 4 credit hours. A course with electronic calculators as an integral part of the study of the

mathematical topics necessary for further work in electronics. Included are topics from algebra, linear equations and determinants, trigonometry, logarithms, computer arithmetic and boolean algebra. 4 class hours per week. **NOTE:** This course intended only for students in the Computer Servicing certificate program or other technical certificate programs.

MA5690 Calculus I: The first course in a 3-semester sequence; 4 credit hours. This sequence is designed for the Engineering, science or mathematics major who needs to master the techniques of calculus.

Beginning with functions and limits, this course includes techniques and applications of differentiation, indefinite and definite integrals and applications of integration including area and volume. 4 class hours per week. **Prerequisite:** Two years of high school algebra and a semester of trigonometry, MA5622, or equivalent.

MA5692 Calculus II: The second course in a 3 semester sequence; 4 credit hours.

This course is a continuation of MA5690. Topics include techniques of integration, improper integrals, series and polar coordinates. 4 class hours per week.

Prerequisite: C or better in MA5690 or equivalent.

MA5693 Calculus III: The third course in a 3 semester sequence; 4 credit hours. This course is a continuation of MA5690 and MA5692. Topics include vector calculus, partial differentiation and multiple integration. 4 class hours per week.

Prerequisite: C or better in MA5692 or equivalent.

MANAGEMENT

MG6651 Industrial Management: A 1-semester course; 3 credit hours. Overview of manufacturing operations. All aspects of the production function are discussed: capital investment, assembly-line operation, plant location, product design, time study, purchasing and other topics. 3 class hours per week

MG6653 Industrial Purchasing: A 1-semester course; 3 credit hours. The course provides a comprehensive

Residence Manager programs.

MH2146 Mental Health Practicum in Residential Services II: A 1-semester course; 4 credit hours. A continuation of Practicum I but with a greater involvement in activities of a community residence manager. 1 class hour and 12 practicum hours per week. **Prerequisite:** MH2145.

MH2147 Group Dynamics: A 1-semester course; 3 credit hours. Course aims to help students to realize their potential for growth more fully, and increase their ability to work effectively with others in a variety of situations. Students will learn how groups work and how individuals function within groups by forming a group for this purpose. Phases of group development, communication and group performance are experienced and discussed. 3 class hours per week. **Prerequisite:** Enrollment in Mental Health Technology, Community Residence Manager or Alcohol/Drug Abuse Counseling programs.

MH2155 Modalities of Treatment: A 1-semester course; 3 credit hours. The management of special problems with adults and children will become the central focus of this course. The course will explore various systems of personality and the application of these systems to practice; individual therapy; group therapy; family therapy; behavior modification and chemotherapy. Special emphasis will be given to the role of the mental health middle-level professional in treatment. 3 class hours per week.

MH2156 Behavior Management

Principles & Techniques: A 1-semester course; 3 credit hours. This course seeks to acquaint students with the application of principles of instrumental learning theory to the problems of human behavior. Focus will be on an approach to patient management problems and practical techniques for helping patients improve functioning in the community. Content will include the analysis of behavior, reinforcement of behavior, point or token system, shaping process, ethical issues and future trends in behavior therapy. 3 class hours per week.

Prerequisite: Enrollment in Mental Health Technology; Community Residence

Manager program.

MH2166 Seminar in Mental Health: A 1-semester course; 3 credit hours. This seminar course allows for group discussion of theoretical and practical approaches to patient-client care. Analysis of practicum experiences; preparation for service in various agencies; and graduate's identity as a mental health middle-level professional. 3 class hours per week. **Prerequisite:** Enrollment in Mental Health Technology or Community Residence Manager programs.

MH2168 Mental Health Practicum I in Alcohol/Drug Abuse Services: A 1-semester course; 4 credit hours. A practicum in selected alcohol/drug abuse agencies, hospitals, detoxification centers, out patient clinics, and special programs which provide care and services for alcohol/drug abusers. Under supervision, students will give services to clients individually or in groups and have the opportunity to follow up clients in the community. 12 practicum hours and 1 class hour per week.

MH2169 Mental Health Practicum II in Alcohol/Drug Abuse Services: A 1-semester course; 4 credit hours. A continuation of Practicum I but with a greater involvement in client care and services. 12 practicum hours and 1 class hour per week.

MH2170 Alcohol and Drug Abuse: A 1-semester course; 3 credit hours. This course is designed to generate an understanding of alcohol use, drug use, misuse, addiction and personal and social consequences. There will be discussion of community approaches to drug abuse, state and federal legislation, etiology, symptomology and current treatment modalities. The primary goal of this course is to provide future and/or present personnel in the field with basic information needed to provide services to this type of client and family. 3 class hours per week.

MH2171 Counseling Techniques with Drug Abusers: A 1-semester course; 3 credit hours. This course will focus on helping the participants develop approaches and intervention strategies for helping people with alcohol/drug abuse problems.

Special treatment philosophies, settings, systems and methods will be explored and discussed. Emphasis will be placed on helping human service counselors deal with alcohol/drug related issues in the context of their general counseling approach. Some background information concerning the physiological effects of alcohol in the body will be presented. 3 class hours per week.

MARKETING

MK6678 Principles of Marketing: A 1-semester course; 3 credit hours.

Introduction to marketing with emphasis placed on the firm as a marketing system which must survive in its external environment of markets, resources and the general society. The concepts of market segmentation, corporate objectives, marketing strategies and marketing information systems will be stressed. 3 class hours per week.

MK6679 Advertising: A 1-semester course; 3 credit hours. Analysis of buying motives and the development of various advertising appeals. Planning, budgeting and testing of phases of the program and the several advertising media. 3 class hours per week.

MK6680 Retailing: A 1-semester course; 3 credit hours. Basic elements of retail merchandising. Types and organization of retail outlets. Buying, pricing, dollar and unit stock control, sales promotion, and expense budgets. 3 class hours per week.

MK6681 Salesmanship: A 1-semester course; 3 credit hours. Fundamentals of salesmanship by studying the behavioral aspects of the persuasion process; a systematic approach to selling which the student can use to develop the techniques which fit his own personality and particular situation. 3 class hours per week.

MK6682 Case Studies in Marketing: A 1-semester course; 3 credit hours. Students will learn to analyze, prepare, present and discuss marketing case studies. Case problems will be presented to students to enable them to understand and solve problems involving market segmentation, market research, pricing, product strategy,

promotion, physical distribution and channel management. 3 class hours per week. **Prerequisite:** MK6678 or equivalent with permission of instructor.

MEDICAL RECORD TECHNOLOGY

MR3009 Cancer Coding, Statistics and Epidemiology: A 1-semester course; 3 credit hours. This course includes the use of coding (ICD-0, latest edition). It covers the basic statistical tools necessary to utilize the data collected in the tumor registry including preparation of reports and survival analysis. Principles of epidemiology are given in order to provide an understanding of how data is used in studying factors associated with cancer. 3 class hours per week. **Prerequisite:** MR6605 Medical Terminology I; MR6606 Medical Terminology II concurrently.

MR3020 Organization, Operation & Quality Assurance in a Tumor Registry: A 1-semester course; 2 credit hours. This course outlines the organizational characteristics of tumor registries and how they relate to the type and purpose of the registry. It covers the methods used in planning, organizing and operating a registry. It outlines the uses of the medical record as the principal source document for data collection and the relationship with the medical record department and other departments within the hospital. It also briefly outlines the content and format of the medical record, record systems and policies of medical record administration. The course includes a description of the relationship of the tumor registrar to the health care delivery system: the hospital, health legislation, accreditation standards, funding and the impact of professional and voluntary organizations. A module covering automated data processing as it relates to registry data and planning and implementing a computer data system is also included. Finally, quality assurance in the tumor registry is covered to tie up all of these elements. Must be taken concurrently with MA3009 Cancer Coding, Statistics and Epidemiology. 2 class hours per week.

MR3030 Residency Training for Tumor Registrars:

A 1-semester course; 2 credit hours. This course requires two 8-hour days per week for 8 weeks of practical experience in an actual tumor registry under the guidance of an experienced tumor registrar. A time-frame for each aspect of the residency will be set and the student gets experience in each area. This will be offered during the Spring semester. A minimum of 128 hours of practical experience is required. Must be taken concurrently with MR3020 Organization, Operation and Quality Assurance in a Tumor Registry in the second semester.

MR6601 Medical Record Science I: A 1-semester course; 3 credit hours. The beginning of a series of courses designed to instruct students in the theory and principles of Medical Record Technology. Subjects covered are history of medical records, orientation to medical record field; admitting areas; Medical Record forms and content; Medical Record formats (e.g., Problem-Oriented Medical Record), Numbering and Filing Systems. 2 class hours and 2 lab hours per week.

MR6602 Medical Record Science II: A 1-semester course; 3 credit hours. Study of basic principles of compiling statistics for hospitals and other medical facilities. Topics include the daily census; analysis of hospital services; monthly, annual and special reports, methods for recording vital statistics, basic principles in the classification of diseases and operations according to the International Classification of Diseases; methods of maintaining the physicians' index; birth, death and emergency registers, and the techniques of assisting medical staff in research projects. 2 class hours and 2 lab hours per week.

Prerequisite: MR6601 Medical Record Science I.

MR6605 Medical Terminology I: A 1-semester course; 3 credit hours. A study of basic prefixes, suffixes, roots, abbreviations, symptomatic, disease, operative, and drug terminology. Terms will be taught by anatomical system with lectures on the anatomy of the system included. The following systems are covered:

integumentary, musculo-skeletal, cardiovascular, blood and blood forming organs. 3 class hours per week.

MR6606 Medical Terminology II: A 1-semester course; 3 credit hours. A study of prefixes, suffixes, roots, abbreviations, symptomatic, disease, and operative terminology of the following systems are covered: digestive, respiratory, neurological uro-genital, maternal and antenatal, endocrine, organs of special sense, and systemic diseases. Also selected laboratory terms and selected medical terms relating to psychiatry are covered. 3 class hours per week. **Prerequisite:** MR6605 Medical Terminology I.

MR6651 Medical Record Science III: A 1-semester course; 3 credit hours. Course includes the study of principles of law as related to patient care and medical records; state and federal legislation regulating health care facilities or the delivery of health care services; study of medical staff structure within the hospital and medical staff committees; study of health accrediting agencies; Medicare, Medicaid, quality assurance programs, P.R.O. 2 class hours and 1 2-hour lab period per week.

Prerequisite: MR6601/MR6602 Medical Record Science I and II.

MR6653 Medical Record Science IV: A 1-semester course; 2 credit hours. Study of health information systems and accrediting agency standards in the long term and ambulatory care setting; course is integrated with and must be taken concurrently with MR6668 Directed Practice II. 2 class hours per week.

MR6661 Medical Record Transcription I: A 1-semester course; 3 credit hours. Introduction to the role of the transcriptionist in health record services. It covers the operation and care of typewriting and transcribing equipment; techniques of transcription; and transcribing of sample medical communications, such as basic history and physical examinations, reports of specialty departments (e.g. x-ray, pathology, EKG's, etc.). Also covered, the typing of various medical forms, admission records, group hospital insurance forms,

ector's service reports, patient transfer
rms, etc.; the use of medical references
h cross referencing; the proper spelling
d punctuation of both common and
medical terms. Quality of transcription
emphasized rather than quantity. 4 class
urs per week. **Prerequisites:** MR6605,
R6606. Typing 45 wpm with 5 errors or
ls or enrollment in Medical Terminology
2Transcribing certificate program.

MR6662 Medical Record Transcription
IA 1-semester course; 3 credit hours.
Development of medical transcription at a
productive speed with accuracy. Units of
history and physical examinations, surgical
reports, and discharge summaries covering
the areas of cardiology, obstetrics-
gynecology, orthopedics, respiratory,
gastroenterology, plastic surgery, urology,
neurology, psychiatry, otorhinolaryngology,
ophthalmology, and endocrinology-
ecology. Rate of production is measured.
Also, medical timed writings given and a
review of English grammar, usage and style.
4 class hours per week. **Prerequisite:**
MR6661.

**MR6667 Directed Practice I (Medical
Record):** A 1-semester course; 4 credit
hours. Supervised practice in the medical
record department of a community hospital
affiliated with the Medical Record Program.
Students participate in all phases of medical
record systems and become fully
acquainted with the required medical
record procedures of a local hospital.
Comparison of systems is provided by class
field trips to other cooperating hospitals
and reports prepared by students. 16 hours
per week. 2 hospital working days per week
(own transportation necessary.)
Prerequisites: MR6601, MR6602, MR6605,
MR6606.

**MR6668 Directed Practice II (Medical
Record):** A 1-semester course; 3 credit
hours. Supervised practice in health
information systems in extended care
facilities, psychiatric facilities, ambulatory
care facilities and in related health care
industries; workshop, lecture, discussion
group sessions on various aspects of health
information systems in various types of
health care facilities. 10 hours per

week.**NOTE:**Students must provide their
own transportation. **Prerequisite:** MR6667
must be taken concurrently with MR6653.

MUSIC

**MU7090 Music Reading, Notation and
Ear Training:** A 1-semester course; 3
credit hours. Music reading is introduced
through the practical experiences of
tapping, singing and playing. Notation
includes study of rock, folk, jazz and
classical. Ear training is accomplished by
analytical listening to all major styles of
music. The recognition of clefs, pitches,
intervals, scales, chords, rhythms and
metric patterns is thus developed. 3 class
hours per week.

MU7091 Introduction to Music: A 1-
semester course; 3 credit hours. Music of
European, American and non-Western
cultures from classical to rock will be
studied. Exposure to various styles and
forms of music, expansion of listening
perception and knowledge of the materials
and sociological aspects of music. 3 class
hours per week.

MU7092 History of Jazz: A 1-semester
course; 3 credit hours. A study of jazz - its
definition, musical elements, history,
performers, composers, styles and forms.
Emphasis will be on understanding,
appreciation and enjoyment of jazz through
listening, explanation and insight into its
cultural background. 3 class hours per
week.

MU7093 Twentieth Century Music: A 1-
semester course; 3 credit hours. Trends in
contemporary music beginning with
Debussy and including electronic and other
avant-garde music, music for theatre and
film, and related social and political trends
of this century. 3 class hours per week.
Recommended Prerequisite: MU7091.

MU7094 Jazz and Rock Theory: A 1-
semester course; 3 credit hours. A course
in learning to improvise music and read
rhythms and chords in the jazz and rock
idioms. Study of pentatonic, blues, modal
and major-minor scales, and related chords
and chord progressions. Exercises in
counting and tapping triplets, dotted and

syncopated rhythms. 3 class hours per week. **Prerequisite:** MU7090 or equivalent knowledge/experience.

MU7097 Performance Ensemble I: A 1-semester course; 3 credit hours. Ensembles of all sizes in rock, folk, jazz and classical music organized for the purpose of gaining experience in preparing and performing music before audiences. Video tape and reel-to-reel recordings of class performances are made for study purposes. Students enrolling must be capable of performing on a musical instrument or as a singer. 1 class and 3 lab hours per week.

MU7098 Performance Ensemble II: A 1 semester course; 3 credit hours. A continuation of MU7097 (see description of Performance Ensemble I) with the requirement of further progress and musical development. 1 class and 4 lab hours per week. **Prerequisite:** MU7097.

MU7100 Harmony I: A 1-semester course; 3 credit hours. An intensive study of key signatures, modes, intervals and triads leading to the basic principles involved in part writing, as exemplified by the music of the Common Practice period. Systematic investigation of the problems involving the use of dissonance (non-harmonic tones) within a basic four-part format. Correlated outside work. 3 class hours per week.

Prerequisite: MU7090, or the ability to read music and knowledge of the major scales.

MU7101 Chorus I: A 1-semester course; 2 credit hours. The Northern Essex Community College Chorus performs, in concert, music from pop to classical. Experience in singing, vocal-part learning and performance is developed. Auditions will take place for voice placement. No prior singing experience necessary. 1 hour sectional and 2 hours chorus rehearsal per week. **Recommended Corequisite:** MU7090.

MU7102 Chorus II: A 1-semester course; 2 credit hours. The Northern Essex Community College Chorus performs, in concert, music from pop to classical. Experience in singing, vocal-part learning and performance is developed. Auditions will take place for voice placement. 1 hour

sectional and 2 hours chorus rehearsals per week. **Prerequisite:** Chorus I, MU7101; recommended corequisite: MU7090.

NURSING

NS6603 Nursing I: A 1-semester course; 8 credit hours. The course is designed to introduce the student to the role of the associate degree nurse. The student learns the holistic approach to meeting the basic nursing needs of clients of all ages with common health problems in structured health care settings. Basic nursing skills are learned in the Nursing Skills Laboratory where competency is evaluated. This course introduces the nursing process and affords students the opportunity to apply it in the clinical setting. Other topics include the health-illness continuum, communication skills, nutrition, pharmacology, sterile technique, and the perioperative cycle. **DAY DIVISION HOURS:** Class meets 4 hours a week per semester; clinical meets 12 hours a week per semester. **EVENING DIVISION HOURS:** Class meets 2 hours a week per semester; clinical meets 6 hours a week per semester. **Prerequisite:** See appropriate curriculum for proper sequencing of courses.

NS6604 Nursing II: A 1-semester course; 8 credit hours. This course is designed to teach the student to apply the holistic approach to the care of clients with problems of nutrition, elimination, regulation and psychosocial adaptation. The student will utilize the nursing process in a variety of structured settings to promote the health status of clients/families of all ages with selected physical and psychosocial problems. Emphasis is placed on the integration of pharmacotherapeutics and teaching/learning principles to plan comprehensive nursing care for clients with common health problems. **DAY DIVISION HOURS:** Class meets 4 hours a week per semester; clinical meets 12 hours a week per semester. **EVENING DIVISION HOURS:** Class meets 2 hours a week per semester; clinical meets 6 hours a week per semester. **12-MONTH OPTION HOURS:** Class meets 4 hours a

week; clinical meets 12 hours a week.

Prerequisite: See appropriate curriculum for proper sequencing of courses.

NS6653 Nursing III: A 1-semester course; 8 credit hours. This course emphasizes holism in the care of the child-bearing family, clients with oxygenation problems, and acute psychosocial problems. Students will implement the nursing process to promote an optimal level of wellness for clients and their families throughout the life cycle. Management skills are focused on the coordination of nursing care for a group of clients in collaboration with other health disciplines in structured health care settings. **DAY DIVISION HOURS:** Class meets 4 hours a week per semester; clinical meets 12 hours a week per semester.

EVENING DIVISION HOURS: Class meets 2 hours a week per semester; clinical meets 6 hours a week per semester. **12-MONTH OPTION HOURS:** Class meets 4 hours a week; clinical meets 12 hours a week. **Prerequisite:** See appropriate curriculum for proper sequencing of courses.

NS6654 Nursing IV: A 1-semester course; 10 credit hours. This course emphasizes holism in the care of clients with acute oxygenation and sensorimotor problems. Application of crisis intervention theory is emphasized in the care of individuals and families at high-risk for abuse, addiction and other maladaptive behavior. The student utilizes the nursing process to promote the maximum health potential of critically ill clients and their families. Management skills necessary for the care of individuals or groups of clients with complex health problems are taught. A preceptorship experience is offered in the last 7 weeks to promote a smooth transition from student to graduate practice. **DAY DIVISION HOURS:** Class meets 5 hours a week per semester; clinical meets 15 hours a week per semester. **EVENING DIVISION HOURS:** Class meets 2.5 hours a week per semester; clinical meets 7.5 hours a week per semester. **12-MONTH OPTION HOURS:** Class meets 5 hours a week; clinical meets 7.5 hours a week.

Prerequisite: See appropriate curriculum for proper sequencing of courses.

NS6682 Contemporary Issues & Practices in Nursing:

A 1-semester course; 3 credit hours. Contemporary Nursing Issues & Practices is planned and implemented by the students under the direction of the course instructor. Students explore social, ethical, and professional issues affecting Nurses which, in turn, influence the practice of the individual nurse. Nursing care practices are explored within the homeostatic conceptual framework with emphasis placed on refinement and utilization of the nursing process. Students are responsible for the presentation of their chosen topic, the method of presentation, the selection of guest speakers and for a typewritten report of the total project. College faculty are utilized as resource persons and give guidance and direction as needed and requested. 3 class hours per week.

Prerequisite: See appropriate curriculum for proper sequencing of courses.

PHYSICAL/ OUTDOOR EDUCATION & LEISURE STUDIES

PE1002 Archery: A 1/2-semester course; 1 credit hour. Basic skills and techniques, cost, care and maintenance of equipment. Interclass competitive shooting. 3 class hours per week.

PE1004 Badminton: A 1/2-semester course; 1 credit hour. Basic strokes (grip, stance, form), rules of the game, care and selection of equipment. Class tournament arranged. 3 class hours per week.

PE1008 Canoeing: A 1/2-semester course; 1 credit hour. The course follows the American Red Cross Small Craft certificate program for canoeing. Some of the skills include: paddling strokes, canoe rescue, artificial respiration and a trip. Students successfully completing the course will receive the American Red Cross Canoeing Certificate. All canoeing equipment is provided.

PE1011 Fly Fishing & Fly Tying: A 1-semester course; 2 credit hours. Cost, selection and care of various types of fishing equipment. Fundamental skills and

techniques. Students will be taken off campus for practical application of skills acquired. 3 class hours per week.

PE1014 Golf: A 1/2-semester course; 1 credit hour. The fundamentals of golf; grip, stance, rules, swing and etiquette. Practice will be given with long and short irons, drives and putters. 3 class hours per week.

PE1015 Golf - Intermediate: A 1/2-semester course; 1 credit hour. Designed for students seeking further skill and knowledge beyond the beginning level. The majority of instruction will be held on the golf course. 3 class hours per week.

PE1018 Modern Dance I: A 1/2-semester course; 1 credit hour. A study of the fundamentals of modern dance techniques. Emphasis is on cultivating a sound basic technique as well as self-expression through movement. 3 class hours per week.

PE1027 Tennis I: A 1/2-semester course; 1 credit hour. Fundamentals including grip, forehand and backhand drives, serve, etc., plus rules of the game, strategy, care and selection of equipment. 3 class hours per week.

PE1028 Tennis II: A 1/2-semester course; 1 credit hour. Instruction and practice in advanced techniques and skills to attain proficiency. Students must meet minimum requirements during the first week of class in order to remain in the course. 3 class hours per week.

PE1031 Weight Training: A 1/2-semester course; 1 credit hour. Basic principles and skills of weight training. Emphasis on the cardiovascular and flexibility activities. 3 class hours per week.

PE1038 Cross-Country Skiing: A 1/2-semester course; 1 credit hour. This course will include the skills necessary for skiing uphill, downhill, striding on flat terrain, poling and different types of skiing equipment. Class time will be spent outdoors skiing and practicing skills. All skiing equipment is provided. 3 class hours per week.

PE1041 Yoga: A 1-semester course; 2 credit hours. This is a course in self-realization covering Hatha exercises and breathing, nutrition, relaxing, concentration

and Eastern philosophy. Classes will consist of practice and discussion aimed at improving life through the wisdom of this timeless discipline. 3 class hours per week.

PE1042 Jogging: A 1/2-semester course; 1 credit hour. This course will elaborate on one of the most simple but effective forms of conditioning. Class time will cover how to warm up, train and pace yourself so as to enjoy the pleasant overall exhilaration this activity promotes. 3 class hours per week.

PE1049 Modern Dance II: A 1/2-semester course; 1 credit hour. Utilizing basic dance skills from Modern Dance I, the student learns advanced techniques and skills to attain proficiency; while the emphasis is on sound technique, time is also reserved for creative activity. 3 class hours per week.

PE1050 Racquetball: A 1/2-semester course; 1 credit hour. An introductory course to racquetball. Includes the basic strokes, footwork, rules, regulations and strategy. 3 class hours per week. All classes are held at Cedardale Racquetball facility in Haverhill, Mass.

PE1052 Mountaineering: A 1/2-semester course; 1 credit hour. A course designed to introduce the student to selection and maintenance of equipment first aid, use of map and compass, fire-building, menu planning, cooking on backpacking stoves, and a week-end backpacking trip to experience all the different skills learned. All backpacking equipment is provided. 3 class hours per week.

PE1056 Cardiopulmonary Resuscitation (C.P.R.) and the Cardiovascular System: A 15-hour, 1-credit course. This course covers the physiology of the cardiovascular system; the prevention, symptoms and treatment of heart attack; as well as practice in one and two-rescuer C.P.R., infant C.P.R., and procedures for obstructed airway. Satisfactory completion of the American Heart Association Exam and practical tests will qualify the student to receive a card certifying him or her in basic life support. 3 class hours per week.

PE1057 Ballet I: A 1-semester course; 1 credit hour. This is a beginning course

which will give the student a basic foundation in classical ballet. Major emphasis will be on the 5 positions of feet and arms and the 8 body positions. Basic technique will be covered with emphasis on barre work and some center work. Basic appreciation of this art form will also be highlighted. 1-1/2 class hours per week.

PE1058 Ballet II: A 1-semester course; 1 credit hour. This course will review basic ballet techniques and progress to refinement of technique through more advanced barre work, center work, and cross-the-floor combinations. 1-1/2 class hours per week. **Prerequisite:** PE1057 Ballet I.

PE1059 Ballet III: A 1/2-semester course; 1 credit hour. Training in advanced skills of ballet technique. The course will focus on the teaching of movements and combinations of movements within the classical ballet vocabulary designed to develop strength, endurance, speed and flexibility. 3 class hours per week.

Prerequisite: PE1058 Ballet II.

PE1060 Ballet IV: A 1/2-semester course; 1 credit hour. Training in advanced skills of ballet technique. The course will focus on the teaching of movements and combinations of movements within the classical ballet vocabulary designed to develop strength, endurance, speed and flexibility. 3 class hours per week.

Prerequisite: Ballet I, II and III.

PE1061 Modern Dance III: A 1/2-semester course; 1 credit hour. Building on basic dance skills developed in Modern Dance I and II, the student will progress to more advanced technique, with more emphasis on locomotor activities. 3 class hours per week. **Prerequisite:** Modern Dance I and II.

PE1062 Modern Dance IV: A 1/2-semester course; 1 credit hour. Building on basic dance skills developed in Modern Dance I, II and III, the student will progress to more advanced technique with work on more complex combinations and use of space. 3 class hours per week.

Prerequisite: Modern Dance I, II, III.

PE1063 Jazz I: A 1/2-semester course; 1 credit hour. Basic training in a variety of jazz styles. The student will develop specialized technique through the barre and basic jazz movements which will be the focus of this course. The barre will be Horton, Luigi and Giordano-based. 3 class hours per week.

PE1064 Jazz II: A 1/2-semester course; 1 credit hour. This course will build on basic jazz terminology covered in Jazz I and progress to more advanced barre and combinations. 3 class hours per week.

Prerequisite: Jazz I.

PE2001 Introduction to Physical

Education: A 1-semester course; 3 credit hours. A career-oriented course designed to introduce new students to the profession of physical education, and to make them aware of career alternatives within the field of physical education and to familiarize them with the requirements and professional preparation. 3 class hours per week.

PE2002 First Aid and Safety: A 1-semester course; 3 credit hours. Prepares the student to deal with most types of medical emergencies. Classes include simulated disaster, ambulance tour, practical skills, knowledge of the Advanced Red Cross First Aid book, and instruction in cardiopulmonary resuscitation. When requirements are met, a standard first aid card and CPR card in basic life support are given. 3 class hours per week.

PE2007 Camp Counseling and Environment Interpretation: A 1-semester course; 3 credit hours. An introductory course in camp counseling and environment interpretation designed to give the prospective camp counselor a background and insight into the workings of camp life and an understanding of the youths he/she will be working with and a knowledge of the resources available. There will be opportunities for practical application of camping skills as well as experiences in out-of-doors activities such as cookouts, sleep-outs and week-end camping trips. 3 class hours per week.

PE2016 Foundations of Health and Fitness:

A 1-semester course; 2 credit hours. This course is designed as an individualized health improvement and maintenance program. The course will focus on individual health and fitness profiles, graded and controlled exercise and monitoring and recording of certain body functions. The objective of the course is to merge exercise, nutrition and stress management into one course and help change a person's life style for a better quality of life. 2 class hours per week.

PE2293 Innovative Movement

Experiences: Childhood to Adult: A 1-semester course; 2 credit hours. Study of and participation in activities, games and creative exercises emphasizing increased motor ability, group interaction and body awareness in "children" of all ages. Designed for teachers, recreation leaders and Mental Health occupations. 2 class hours per week.

PE2294 Learning Through Movement: A

1-semester course; 2 credit hours. This course explores movement as a learning tool for the arts, language, science and math - through the use of large and small muscle activities, field trips, dramatic play and music. Emphasis will be on matching appropriate activities with stages of development for years 1-6. 2 class hours per week.

PE2295 Slimnastics: A 1-semester course; 2 credit hours. An exercise and activity class emphasizing weight control through individualized diet, increased muscle tone and total body well-being. Participation will include small group discussion and progress will be charted. 2 class hours per week.

PHYSICS

PI5501 General Physics I: A 1-semester course; 4 credit hours. This course is intended for science majors. The course will examine the composition and resolution of vectors, equilibrium of a particle, moments of a force, rectilinear motion, Newton's second law, gravitation, motion, work, energy, impulse and momentum, rotation and elasticity. Plane geometry, trigonometry

and algebra will be used. 3 class hours and 3 lab hours per week. **Prerequisite:** One year of college mathematics.

PI5502 General Physics II: A 1-semester course; 4 credit hours. This course is intended for science majors. The course will examine heat, light, electricity and magnetism, sound, and atomic physics. Plane geometry, trigonometry and algebra will be used. 3 class hours and 3 lab hours per week. **Prerequisite:** PI5501.

PI5503 Introductory Physics I: A 1-semester course; 4 credit hours. This course is intended for non-science majors. It is designed to cover concepts in physics which are necessary for a basic understanding of our Twentieth Century physical world. The treatment will be largely non-mathematical and will cover topics such as motion, energy, gravitation, and the structure of matter. 3 class hours and 2 lab hours per week.

PI5504 Introductory Physics II: A 1-semester course; 4 credit hours. A continuation of PI5503 with the same objectives, but focusses upon other interesting topics such as heat, light and radiation. 3 class hours and 2 lab hours per week. **Prerequisite:** PI5503.

PI5621 Applied Physics I: A 1-semester course; 4 credit hours. The principles of mechanics including concurrent forces, non-concurrent forces, friction, elasticity, motion, forces and motion, work and energy, power, impulse and momentum, simple harmonic motions. A non-calculus approach. 3 class hours and 3 lab hours per week. **Prerequisite:** MA5621 or equivalent.

PI5622 Applied Physics II: A 1-semester course; 4 credit hours. Fluid mechanics, heat, sound, light including the following topics: Archimedes principle, Bernoulli's equation, the laws of thermodynamics, properties of gases, heat transfer, wave motion reflection, refraction, lenses. A non-calculus approach. 3 class hours and 3 lab hours per week. **Prerequisite:** PI5621 and MA5621 or equivalent.

PI5623 Engineering Physics I: A 1-semester course; 4 credit hours. To be taken concurrently with MA5692. The principles of mechanics, including composition and resolution of vectors, statics, moments, rectilinear motion, Newton's second law, motion of a projectile, work and energy, impulse and momentum, circular motion, rotational kinematics and dynamics, elasticity, harmonic motion. 3 class hours and 3 lab hours per week. **Prerequisite:** MA5691 or equivalent.

PI5624 Engineering Physics II: A 1-semester course; 4 credit hours. To be taken concurrently with MA5693. Heat, sound and optics, including the following: thermometry, quantity of heat, change of state, work and heat; heat transfer, thermal properties of matter, the first and second law of thermodynamics, wave motion, vibrating systems; acoustical phenomena; the nature and propagation of light; reflection and refraction at a single surface, lenses and lens aberration; optical instruments; illumination, color, and polarized light. 3 class hours and 3 lab hours per week. **Prerequisite:** PI5623.

PI5651 Engineering Physics III: A 1-semester course; 4 credit hours. Principles of electricity and magnetism, Coulomb's law, potential, D.C. Circuits, the magnetic field, galvanometers, ammeters, voltmeters, wattmeters, the D.C. motor, magnetic field of a current and of a moving charge, induced electromotive force, capacitance and inductance, magnetic properties of matter. 3 class hours and 3 lab hours per week. **Prerequisite:** PI5624.

PI6511 Radiologic Science I: A 1-semester course; 3 credit hours. Designed to examine the fundamentals of physical principles of electrical and x-ray physics and the operational study of x-ray equipment and auxiliary devices. The course will examine fundamental and derived units, mechanics, matter, magnetism and electricity, electromagnetism, generators, motors and transformers. 3 class hours per week. **Prerequisite:** Enrollment in Radiologic Technology Program or permission of the instructor.

PI6512 Radiologic Science II: A 1-semester course; 3 credit hours. Emphasis will be placed on the formation of ionizing radiation by further analysis of x-ray and other types of circuits, tubes, etc., laws of motion, thermal considerations, optics and lens systems and radioactivity. 3 class hours per week. **Prerequisite:** Enrollment in Radiologic Technology Program or permission of the instructor.

PHILOSOPHY

PH0001 Early & Medieval Philosophy: A 1 semester course; 3 credit hours. An ADVENTURE in the history of ideas. A study of the rise and evolution of philosophy from the early Greeks to the Renaissance. Emphasis on Plato, Aristotle, Augustine and Aquinas. 3 class hours per week.

PH0002 Modern Philosophy: A 1 semester course; 3 credit hours. A further ADVENTURE in the history of ideas. A study of the progress of philosophy from the Renaissance to the twentieth century. Special emphasis on Descartes, Locke, Hegel, Nietzsche, Marx and Sartre. 3 class hours per week.

PH0201 Bioethics: A 1-semester course; 3 credit hours. An examination of the interrelationships between philosophy and problems arising from advances in modern biology, including the ethical implications of the problems of population control, resource allocation and biomedicine. This is a discussion course for those students who enjoy dealing with ideas. There are no prerequisites, but a general background in the sciences or philosophy may make the ideas presented in the course more meaningful. This course might not be transferable as a science requirement. 3 class hours per week.

PH1101 Introduction to Philosophy: A 1-semester course; 3 credit hours. The aims, nature and problems of philosophy, with emphasis upon theory of knowledge, metaphysics, ethics and philosophy of religion. 3 class hours per week.

PH1102 Problems of Philosophy: A 1-semester course; 3 credit hours. A critical

analysis of the philosophic issues concerning the nature of man, freedom and determinism, esthetics, social and political philosophy and philosophy of history. 3 class hours per week. **NOTE:** not a sequential course.

PH1141 Ethics: A 1-semester course; 3 credit hours. A study of representative ethical systems and how they deal with moral issues. Attention will be given to the meanings of basic terms and to the application of ethics to major personal and social problems of our times such as those in law, medicine, international issues, sexuality and lifestyle. 3 class hours per week.

PH1150 Practical Logic: A 1-semester course; 3 credit hours. This course is designed to introduce the student to the basics of reasoning, argumentation, and critical thinking. Included are criteria of sound reasoning, rational assessment of arguments, common fallacies, and basic informal logic. 3 class hours per week.

PH1151 Introduction to Logic: A 1-semester course; 3 credit hours. Course will inquire into the nature of critical thinking. Such topics as the functions of language, experimental truth and logical validity, the structure of deductive arguments, and basic inductive methods will be considered. 3 class hours per week.

PRACTICAL NURSING

PN0101 Practical Nursing I: A 1-semester course; 10 credit hours. This course focuses on the fundamental skills and principles of administering basic nursing care to patients in various medical-surgical and geriatric clinical settings. Emphasis is placed on developing assessment skills needed to recognize and meet basic nursing needs; providing a safe comfortable physical environment; meeting the personal care needs common to all patients in simple nursing situations. Introduction to general surgical care, drug administration, proper communication techniques, and legal and ethical aspects of nursing care are included. The clinical component is correlated with the didactic,

utilizing community acute and non-acute settings. 8 class hours and 11 clinical hours per week.

PN0201 Practical Nursing II: A 1-semester course; 10 credit hours. This course introduces the student to the role of the practical nurse in the health care delivery to patients in all stages of growth and development, focusing on common medical-surgical problems and the related pharmacologic and nutritional protocols in the therapeutic/restorative plan of care. In each unit the unique aspects of the pediatric, adult and geriatric patient will be identified. The clinical component, utilizing adult and geriatric medical-surgical and pediatric units, is designed to correlate the didactic with the nursing care practice. 7 class hours and 17 clinical hours per week.

Prerequisite: Completion of Practical Nursing I with a grade of C (2.0) or better; PS1101 Introduction to Psychology and SC5503 Integrated Science I.

PN0301 Practical Nursing III: A 10-week course; 8 credit hours. This course provides the basic nursing skills necessary for an entry level I Maternity staff nurse position and prepares the student with realistic expectations of the graduate Practical Nurse entry-level position. Proceeding from simple to complex, normal to abnormal, family-centered nursing care concepts and skills are developed in the obstetrical clinical setting. In various medical-surgical clinical settings, emphasis is placed on developing self-initiative and graduate-level skills and responsibilities. Included is further development of the nursing process as it is reflected in all aspects of health care and the nursing implications of the administration of common medications. Each component (Maternal-Infant Nursing; Advanced Nursing Concepts) must be passed to advance to the next component and to graduate from the program. 7-1/2 class hours and 25 clinical hours per week.

Prerequisite: Completion of Practical Nursing II with a grade of C (2.0) or better; SC5504 Integrated Science II and PS1203 Developmental Psychology.

PN0310 Vocational Trends in Practical Nursing: A 10-week course; 1 credit hour. Explores the social, ethical and professional issues that affect nursing and influence nursing practices. The course provides an historical overview of nursing and practical nursing organization. Emphasis is placed on current trends in nursing education and practice and the impact on the practical nurse. 1-1/2 class hours per week.

PSYCHOLOGY

PS1101 Introduction to Psychology: A 1-semester course; 3 credit hours. A survey course covering major topics and theorists in the field. The social, emotional, motivational, sensory and cognitive realms of behavior will be studied with a primary emphasis on normal developmental trends and patterns. Theorists considered may include Maslow, Freud, Piaget, Erikson and Skinner among others. 3 class hours per week.

PS1151 Child Psychology: A 1-semester course; 3 credit hours. In this course students will 1) identify and discuss some of the most important aspects of normal physical, mental, emotional, social and personality development; 2) learn about biological and environmental influences on these areas of development; 3) examine some of the diverse approaches in child development research and theory; and 4) apply such research and theory to real life situations in order to become aware of the flexibility that occurs in the developmental process. 3 class hours per week.

PS1152 Adolescent Psychology: A 1-semester course; 3 credit hours. A study of adolescent development from the point of view of both the adolescent and the adult. Basic theories of development will be examined with an emphasis on social, emotional, physical and cognitive domains. Communication and problem solving techniques appropriate to this stage will be considered in general and with reference to specific potential conflict areas. May not be offered every semester. 3 class hours per week.

PS1154 Psychology of Personality: A 1-semester course; 3 credit hours. This course introduces students to a variety of theoretical approaches to the understanding of character and personality. It includes psychoanalytic, learning, humanistic, transpersonal and existential theories. May not be offered every semester. 3 class hours per week.

PS1203 Developmental Psychology: A 1-semester course; 3 credit hours. This course is a developmental life span course which conveys the psychological and social aspects of normal human development from conception through adulthood. The major patterns and sequences of growth and individual differences are reviewed in the light of the theories of Freud, Piaget, Maslow, Erikson and Kohlberg. 3 class hours per week.

PS1351 Social Psychology: A 1-semester course; 3 credit hours. A discussion of the fact that human nature is social and the implications of that fact: principally the effect of others upon one's mind and self-imagery, and the complex social coordination that it allows. Special attention to individuation, the social validation of meaning and perception, symbols and symbolic interaction. 3 class hours per week.

PS1354 Human Relations: A 1-semester course; 3 credit hours. A group experience providing students with an opportunity to study and experience interpersonal relationships in a small group in which the focus is on interpersonal communication. Limit 20 students. May not be offered every semester. 3 class hours per week.

PS1355 Deafness: The Individual & Society: A 1-semester course; 3 credit hours. This course will examine deafness from a multidisciplinary and developmental perspective. It will explore the psychological and sociological variables that affect the growth and development of the deaf individual in a hearing society. This will include the function of language in society, the effect of deafness on the cognitive, social, psychological development of the deaf person and the role of the family and

other institutions in the socialization of the deaf individual. It will also attempt to explore cultural and personal attitudes towards deafness of both the deaf and hearing person. 3 class hours per week.

Prerequisite: Introduction to Psychology.

PS1651 Organizational Behavior: A 1-semester course; 3 credit hours. An introduction to problems of human relations in business and industry. Such problems as selection, placement, conflict, supervision, motivation and cooperation will be examined. (Case studies will be used when feasible.) May not be offered every semester. (Formerly known as Industrial Psychology.) 3 class hours per week.

PS1751 Abnormal Psychology: A 1-semester course; 3 credit hours. The study of the etiology, treatment and prevention of mental disorders. Includes the study of functional and organic psychoses, psychoneuroses and borderline maladjustments. 3 class hours per week.

PS2112 Problems of Early Childhood Education: A 1-semester course; 3 credit hours. A sociological-psychological study of factors leading to educational success for the young child defined as having special needs because of intellectual, cultural, social and emotional factors. Federal and State legislation dealing with the education of handicapped children will be introduced. This course includes the role of the family and cultural background as they relate to educational success. A theoretical framework of crisis and loss will be presented. 3 class hours per week.

PS2114 Problems of the School-Aged Child: A 1-semester course; 3 credit hours. The course is designed to introduce the student to the variety of problems adults encounter with children particularly in the classroom setting. An effort will be made to 1) identify the needs and rights of children; 2) classify specific problem areas ranging from physical handicaps to cognitive, social and emotional difficulties; 3) examine and discuss methods of relating to and teaching "problem children" and 4) identify support resources available in the community to teachers and parents. A simultaneous field

work assignment is recommended. 3 class hours per week.

PS6551 Adulthood and Aging: A 1-semester course; 3 credit hours. This course will focus on the human life cycle from young adulthood to late life with an emphasis on the middle and later years. Transition, adaptation, and those variables which affect successful aging will be explored. Current theorists such as Erikson, Neugrten, Levenson and G.H. Mead will be discussed in an effort to conceptualize all of life as developmental. 3 class hours per week.

RELIGION

RE1101 World Religions: A 1-semester course; 3 credit hours. A comparative study of the major religions of the world, including Hinduism, Buddhism, Taoism, Confucianism, Sikhism, Judaism, Christianity and Islam. 3 class hours per week.

RE1102 Contemporary Western Religion: A 1-semester course; 3 credit hours. A study of the major current movements in theology and practice of religious life, with emphasis on American religion. Death of God, religious atheism, secular Christianity, the charismatic revival and the Jesus movement are among the themes discussed. Opportunity will be given for field work in the religious life of the Merrimack Valley. 3 class hours per week.

RE1103 Eastern Philosophies and Religions: A 1-semester course; 3 credit hours. A survey of the major religious traditions of India, China and Japan, with emphasis on Hinduism, Buddhism, Confucianism, Taoism and Shinto. The course is aimed at an acquaintance with the ways of thinking and living, as well as the value judgment inherent in eastern culture traditions. 3 class hours per week.

RE1104 Judaism, Christianity and Islam: A 1-semester course; 3 credit hours. A survey of the Judaic, Christian and Islamic traditions with emphasis on historical and cultural perspective. Attempts are made to assess the role of religion in

the ancient, medieval and modern societies of the West and Middle East. 3 class hours per week.

RESPIRATORY THERAPY

RS6612 Respiratory Therapy I: A 1-semester course; 9 credit hours. This course provides an introduction and orientation to the field of respiratory therapy. Major topics include cardiopulmonary anatomy and physiology, medical gas and oxygen therapy; humidity and aerosol therapy, basic patient assessment; an introduction to blood gases and acid-base balance; chest physiotherapy; and finally sterilization and infection control. The lab component covers equipment and procedural skills related to lecture material. The clinical component takes knowledge and skills presented in lecture and lab and applies them to the hospital setting. The clinical component is presented at one of the affiliated hospitals and administered jointly by the clinical instructor and the clinical coordinator. Clinical time during the first few weeks of the course will be spent on campus in a pre-clinical orientation. Topics covered during pre-clinical orientation will include the history and organization of the profession, legal aspects of health care, and some basic nursing skills associated with patient care. This course also incorporates physician lectures from the program's Medical Director. **Note:** A grade of C- or better is prerequisite to go on to RS6622. 6 class hours, 2 lab hours, 8 clinical practicum hours per week.

RS6622 Respiratory Therapy II: A 1-semester course; 11 credit hours. This course presents sections in cardiopulmonary pathophysiology; pulmonary disease; basic pulmonary function testing; clinical application of blood gas analysis; an introduction to positive pressure breathing and IPPB; and finally emergency respiratory care. The lab component covers equipment and procedural skills related to lecture material. The clinical component will provide supervised practice of these procedures with an emphasis on evaluation and quality

patient care. Presented at one of the affiliate hospitals, it will be administered jointly by the clinical instructor and the clinical coordinator. This course also incorporates physical lectures from the program's Medical Director. 6 class hours, 2 lab hours, 16 clinical practicum hours per week. **Prerequisite:** RS6612 with a grade of C- or better. **Co-requisite:** RS6629.

RS6629 Respiratory Pharmacology: A 1-semester course; 2 credit hours. This course will present the principles of general pharmacology and action of the major respiratory drugs. Some selected cardiovascular drugs will also be studied. In addition, the anatomy and physiology of the autonomic nervous system (ANS) and its role in drug action will be presented. Included in this course are the history of drug development; drug legislation and regulation; dosage calculations; modes of administration; and indications, contraindications and side effects of major respiratory drugs. 2 class hours per week. **Prerequisite:** RS6612.

RS6632 Respiratory Therapy III: A 3-week course; 2 credit hours. This course provides continued practice of skills and procedures learned in the first two semesters including oxygen therapy, aerosol and humidity therapy, IPPB, I.S., CPT, blood gas analysis, and some basic PFT procedures. Credit for Life Learning option available. 40 clinical practicum hours per week. **Prerequisite:** RS6622 with a grade of C- or better.

RS6642 Respiratory Therapy IV: A 1-semester course; 11 credit hours. This course covers areas of airway and ventilator management; advanced pulmonary function testing; an introduction to neonatal and pediatric respiratory care; cardiopulmonary rehabilitation; and finally analysis and decision making. The lab component covers equipment and procedural skills related to lecture material. The clinical component will provide supervised practice of these procedures with an emphasis on evaluation and quality patient care. Presented at one of the affiliate hospitals, it will be administered jointly by the clinical instructor and the

clinical coordinator. This course also incorporates physician lectures from the program's Medical Director. 6 class hours, 2 lab hours, 16 clinical practicum hours per week. **Prerequisite:** RS6622 with a grade of C- or better.

RS6651 Respiratory Therapy V: A 1-semester course; 8 credit hours. This course will provide advanced study in cardiovascular and respiratory disease; emergency respiratory care; respiratory intensive care; and finally neonatal and pediatric respiratory intensive care. There is no lab component with this course. The clinical component will provide supervised practice of procedures related to lecture material with an emphasis on evaluation and quality patient care. Presented at one of the affiliate hospitals, it will be administered jointly by the clinical instructor and the clinical coordinator. Specialty rotations are set up in neonatology/pediatrics and home care. This course also incorporates physician lectures from the program's Medical Director. 6 class hours and 8 clinical practicum hours per week. **Prerequisite:** RS6642 with a grade of C- or better.

RS6659 Respiratory Seminar: A 1-semester course; 2 credit hours. This course integrates the psychology of patient care, interpersonal relations, and the principles of management and education. Since a seminar is defined as a group of advanced students studying under a professor, each doing original research and sharing the results of that research with each other, this course relies heavily on student research and class participation. 2 class hours per week. **Prerequisite:** RS6642.

RS6662 Respiratory Therapy VI: A 1-semester course; 2 credit hours. This course provides continued practice of skills and procedures learned in RS6632 and RS6642. The areas of practice will include airway and ventilator management, intensive and emergency respiratory care, pulmonary function testing, and finally skills and procedures from previous semesters. Credit for Life Learning option available. 8 clinical practicum hours per week. **Prerequisite:** RS6632 and RS6642.

RADIOLOGIC TECHNOLOGY

RT6503 Introduction to Radiologic Technology: A 1-semester course; 3 credit hours. This course will introduce the students to departmental administration, medical terminology, medical ethics, basic radiation protection, radiographic film, film holders, darkroom procedures, basic nursing procedures and cardiopulmonary resuscitation (CPR). The course is divided into two separate modules. Module A consists of 40 class hours scheduled with the first four weeks. Module B consists of the clinical practicum portion which is provided at the affiliate hospitals. 15 hours a week for the first four weeks; 40 hours a week for the last four weeks. **Prerequisite:** Enrollment in the Radiologic Technology Program.

RT6515 Clinical Practicum I: A 1-semester course; 2 credit hours. A concurrent aspect of Radiologic Technology I. The student will apply under direction and supervision at the affiliate hospital principles learned in the classroom. Emphasis will be placed on solidification of theoretical knowledge in the hospital setting. Activities will be under the direction of the college and the liaison instructor at the affiliate hospital. 14 hours of directed clinical activity and 2 hours of discussion for a total of 16 hours per week. **Prerequisite:** RT6519 Radiologic Technology I.

RT6519 Radiologic Technology I: A 1-semester course; 4 credit hours. This course will offer a comprehensive and detailed study of basic principles of radiographic exposure, preliminary radiographic positioning and radiographic osteology. Emphasis will be placed on the understanding of radiologic technology and its place in the clinical affiliation. 3 lecture hours, 2 lab hours per week. **Prerequisite:** RT6503 Introduction to Radiologic Technology.

RT6523 Radiologic Internship: A 10-week summer internship for 2 credits at the students designated hospital affiliate. This clinical internship allows the student continual practicum experience and reinforcement of material learned to date in

the field of Radiology. **Prerequisite:** Completion of all Freshman Radiologic Technology courses.

RT6525 Clinical Practicum II: A 1-semester course; 2 credit hours. A concurrent aspect of Radiologic Technology II. The student will apply under direction and supervision at the affiliate hospital principles learned in the classroom. Emphasis will be placed on solidification of theoretical knowledge in the hospital setting. Activities will be under the direction of the college and the liaison instructor at the affiliate hospital. 14 hours of directed clinical activity and 2 hours of discussion for a total of 16 hours per week.

Prerequisite: RT6529 Radiologic Technology II.

RT6529 Radiologic Technology II: A 1-semester course; 4 credit hours. This course will continue basic positioning, radiographic exposure and their interrelated principles. An evaluation and study of the use of contrast media. Emphasis will be placed on Radiologic Technology and its place in the clinical affiliation. 3 lecture hours, 2 lab hours per week. **Prerequisite:** RT6519 Radiologic Technology I.

RT6531 Radiologic Technology III: A 1-semester course; 3 credit hours. This course will provide the student with an introduction to the evaluation of radiographic systems to assure consistency in the production of quality images. The components involved in the radiography system will be identified. Tests and procedures to evaluate these components will be discussed. State/federal impacts will be described. Special imaging techniques and equipment will also be discussed. 3 class hours per week. **Prerequisite:** RT6529 Radiologic Technology II.

RT6533 Advanced Radiographic Positioning: A 1-semester course; 3 credit hours. The student will study alternate methods of investigating the skeletal system for trauma and disease as they relate to Radiologic Procedures. 3 class hours per week. **Prerequisite:** RT6529 Radiologic Technology II.

RT6535 Clinical Practicum III: A 1-semester course; 3 credit hours. A concurrent aspect of Radiologic Technology III, Advanced Radiographic Positioning and Special Procedures. The student will apply under direction and supervision at the affiliate hospital material learned in the classroom. Emphasis will be placed on solidification of theoretical knowledge in the hospital setting. Activities will be under the direction of the college and the liaison instructor at the affiliate hospital. 22 hours of directed clinical activity and 2 hours of discussion for a total of 24 hours per week.

Prerequisites: RT6533, RT6531 and RT6539 concurrently.

RT6539 Radiologic Special Procedures: A 1-semester course; 3 credit hours. The student will study special diagnostic radiographic procedures and the special equipment involved. 3 class hours per week. **Prerequisite:** RT6529 Radiologic Technology II.

RT6541 Computers in Radiography: A 1-semester course; 3 credit hours. This course will introduce the student to fundamental principles of computer technology, computer concepts and related terminology. Computerized axial tomography as a diagnostic tool will be discussed. CT equipment and its application will be investigated and basic CT examinations with related cross sectional anatomy will also be studied. 3 class hours per week. **Prerequisite:** RT6531 Radiologic Technology III.

RT6543 Disease and Diagnosis: A 1-semester course; 3 credit hours. The student will study basic human diseases and critique and evaluate radiographic films demonstrating trauma pathology and normal appearing anatomy. 3 class hours per week. **Prerequisite:** RT6539 Radiologic Special Procedures.

RT6545 Clinical Practicum IV: A 1-semester course; 3 credit hours. A concurrent aspect of Radiologic Technology IV, Disease and Diagnosis and Radiobiology. The student will apply under direction and supervision at the affiliate hospital material learned in the classroom. Emphasis will be placed on solidification of

theoretical knowledge in the hospital setting. Activities will be under the direction of the college and the liaison instructor at the affiliate hospital. 22 hours of directed clinical activity and 2 hours of discussion for a total of 24 hours per week.

Prerequisites: RT6543 and RT6549 concurrently.

RT6549 Radiobiology: A 1-semester course; 3 credit hours. The student will study the biological effects of radiation, radiation protection, radiation therapy and radioisotopes. 3 class hours per week.

Prerequisite: RT6531 Radiologic Technology III.

SCIENCE

SC5503 Integrated Science I: A 1-semester course; 3 credit hours. This course provides an introduction to the study of the structure and function of the human body. Related topics in chemistry, physics and disease are integrated with the appropriate body systems covered. 3 class hours per week.

SC5504 Integrated Science II: A 1-semester course; 3 credit hours. A continuation of SC5503 covering the body systems not studied in SC5503. Related topics in chemistry, physics and disease are integrated where appropriate. An introduction to microbiology is also included. 3 class hours per week.

SC5011 Energy, Environment and Our Future: A 1-semester course; 3 credit hours. Human population and associated energy demands have increased in the last century. This course examines the impact of this development from the points of view of food, technology and urbanization. The study of the progressive deterioration of human balance with the rest of nature shows the way psychological attitudes have to change. This course questions whether the prevailing attitudes and ever increasing energy demands can continue without destroying the delicate ecological balance that has taken so long to evolve. 3 class hours per week.

SC5514 Plants and Civilization: A 1-semester course; 3 credit hours. Dependence of the human race on plants and plant products. How specific plants produce the food, fuel, beverages, and medicinal products, and the resultant impact on the development of civilization. class hours per week.

SC5515 Fundamentals of Science: A 1-semester course; 3 credit hours. This course is designed for students in the Respiratory Therapy programs. It contains material in mathematics, physics, chemistry and microbiology that is necessary for a basic understanding of the sciences pertaining to Respiratory Therapy. 3 class hours per week. **Prerequisite:** Enrollment in Respiratory Therapy Program or permission of instructor

SC5516 Introduction to Cancer and Management of the Cancer Patient: A 1 semester course; 2 credit hours. This course will cover cancer diagnosis and treatment. It will address some of the problems related to the cancer patient: socio-economic, medical, psychological and familial. It includes classification of tumors according to tissue of origin and the evolution of various staging systems. 2 class hours per week. **Prerequisite:** Medical Terminology I and Anatomy & Physiology I must be taken prior to or simultaneously with this course.

SHORTHAND/DICTATION/TRANSCRIPTION

SH6611 ABC Shorthand: A 1-semester course; 3 credit hours. ABC Shorthand is an alphabetic system of shorthand which gives students entry-level skills for vocational purposes or the ability to take shorthand for personal or professional use. The course includes the forty rules of the system, brief forms, high-frequency words, and dictation of business letters. 2 class hours and 2 lab hours per week.

SH6621 Principles of Shorthand: A 1-semester course; 3 credit hours. Gregg shorthand principles, including the shorthand alphabet, brief forms, phrasing, and other abbreviating devices.

Development of the ability to take dictation on practiced material at progressively higher levels. Study of the non-shorthand elements of spelling and punctuation. 4 class hours per week.

SH6622 Intermediate Shorthand: A 1-semester course; 3 credit hours.

Reinforcement of shorthand principles, development of ability to take new matter dictation at progressively higher levels, and procedures and methods for handling simple, office-style dictation problems. 4 class hours per week. **Prerequisite:** SH6621 or equivalent.

SH6623 Machine Shorthand: A 1-

semester course; 3 credit hours. A beginning course in which touch shorthand develops through the use of a stenograph machine introduction and practice activities designed to reinforce keyboard mastery; the student acquires a thorough knowledge of the principles of machine shorthand. 4 class hours per week.

SH6624 Intermediate Machine

Shorthand: A 1-semester course; 3 credit hours. Extension and development of machine shorthand theory. Quick recognition of phonetic sounds, accuracy of notes, and rapid reading are stressed to bring minimum speeds to the level of 100 words a minute. 4 class hours per week. **Prerequisite:** SH6623.

SH6625 Advanced Machine Shorthand:

A 1-semester course; 3 credit hours. Development of fluent and accurate writing and transcription of material dictated at speeds from 100 to 140 words a minute. 4 class hours per week. **Prerequisite:** SH6624 & TW6622 or equivalent.

SH6671 Shorthand Dictation &

Transcription: A 1-semester course; 3 credit hours. Development of ability to take dictation at progressively higher levels. Emphasis is placed on the mechanics of English including spelling and punctuation and the growth of effective transcribing techniques. 5 class hours per week.

Prerequisites: SH6622 & TW6622 or equivalent.

SH6673 Expert Shorthand Dictation &

Transcription: A 1-semester course; 3 credit hours. Development of shorthand

skill to the expert levels of 120 to 160 words per minute. Study of shorthand reporting short cuts. Vocabulary of executive dictation. Further development of transcribing skills. Emphasis on growth of ability to do conference reporting. 5 class hours per week. **Prerequisite:** SH6672.

SH6674 Shorthand Skills Review: A 1-semester course; 3 credit hours.

Accelerated review of shorthand theory. Special emphasis on joined and disjoined word prefixes and suffixes. Review and development of dictation skills above minimum levels. Progression on an individualized basis. 4 class hours per week. **Prerequisite:** SH6621 or equivalent.

SH6675 Shorthand Speed

Development: A 1-semester course; 3 credit hours. Development of shorthand vocabulary to high levels of syllabic intensity. Specialized business vocabulary. Pretranscription training. Continued skill development in dictation. Programs planned to accommodate student's level of skill. 4 class hours per week. **Prerequisite:** SH6621 or equivalent.

SH6677 Medical Dictation &

Transcription: A 1-semester course; 3 credit hours. Development of the shorthand vocabulary necessary to write from dictation and to transcribe medical dictation. Practice in preparing various kinds of medical reports. 5 class hours per week. **Prerequisites:** SH6671 and MR6605.

SH6678 Shorthand and Office

Simulation: A 1-semester course; 3 credit hours. Development of shorthand skill to highly proficient and expert levels. Reinforcement of previously learned typing and shorthand skills to improve accuracy and speed of transcription. Advanced office-style procedures. 5 class hours per week. **Prerequisite:** SH6671.

SH6680 Legal Office Practices &

Procedures: A 1-semester course; 3 credit hours. Development of a basic legal vocabulary. Study of the duties and responsibilities of the legal secretary in a law office. Emphasis will be placed on preparing legal documents in the following areas: contracts, wills, trusts and estates, real estate and litigation. 4 class hours per

week. **Prerequisite:** TW6622.

SH6692 Legal Transcription for Word Processing:

A 1-semester course; 3 credit hours. The course is designed to help students acquire employable skills in transcribing various forms of dictated legal material. Emphasis is placed on the relationship of machine transcription media to the emerging electronic office in accordance with the changing technology of the modern law office. 4 class hours per week. **Prerequisite:** TW6622.

OFFICE TECHNIQUES

SK6653 Machine Transcription: A 1-semester course; 3 credit hours.

Development of high-level skills in the use of transcription equipment. Emphasis is placed on the use of business, professional, and technical materials. Development of vocational transcription rates. 4 class hours per week. **Prerequisite:** TW6622.

SK6655 Medical Machine Transcription for Word Processing: A 1-semester course; 3 credit hours.

Introduction to machine transcription and the development of speed and accuracy in the use of the machine for transcribing medical reports, letters, history and physical examination records, surgical data, and discharge summaries. Also the development of medical vocabulary, good format, punctuation, spelling and word usage. Units are covered in the areas of cardiology, thoracic medicine, obstetrics and gynecology, pediatrics, dermatology, orthopedics, urology, ophthalmology, plastic surgery, endocrinology-oncology. 4 class hours per week. **Prerequisite:** TW6622 and MR6605.

OFFICE ADMINISTRATION

SL6661 Office Administration I: A 1-semester course; 3 credit hours. Required of all students in the Office and Business Education Department. Theory and problems in records management as a vital administrative support service, word processing from the viewpoint of copying and duplicating, written communications,

and transmittal services. Concentration is placed upon the approach to job satisfaction through the systematic analysis of employment selection and the intensive concentration on the development of those traits and attitudes required of the highly trained professional. 3 class hours per week. **Prerequisites:** TW6622 & SH6622 or equivalent.

SL6665 Essentials of Office Management:

A 1-semester course; 3 credit hours. Development of judgments and insights needed by the executive secretary to function on the administrative or supervisory levels. Analysis of long-range office projects, determination of work priorities, organization of research information, and the place of human relations in the supervisory process. A case study approach to the problems of office supervision. 3 class hours per week.

SL6668 Secretarial Field Experience: A 1-semester course; 3 credit hours. Students are assigned to offices on the basis of interest and ability so that they may become a part of the business world before graduation. The student is supervised at the college by the departmental faculty and at work by the employer. One class hour and eight office hours per week. **Prerequisites:** SH6671 and TW6631.

SL6670 Workshop in Secretarial & Office Skills:

A 1-semester course; 3 credit hours. An opportunity to review, refine, and improve a variety of office machines, business procedures and records management. The workshop is designed to meet the needs of persons who are now working and who are interested in reinforcing and improving existing office skills, and also for persons who wish to return to the field of office work. 2 class hours and 2 lab hours per week.

SL6671 Information Processing Concepts:

A 1-semester course; 3 credit hours. Development and refinement of theoretical concepts of Word Processing necessary for satisfactory job performance in a general office environment. The course emphasizes the need for Word Processing, the efficiency of Word Processing, the Word Processing Systems, new careers

created by Word Processing, Word Processing equipment and workflow, and the implementation of Word Processing in a modern business office. This concept course also provides a basis for understanding the purpose and function of Word Processing equipment. 3 class hours per week. **Prerequisite:** Knowledge of the typewriter keyboard.

SL6673 Word Processing I: A 1-semester course; 3 credit hours. An introductory course in the operation of visual display word processors. The course will include introduction to computer terminals and adaptation to word processing, creation of documents, document names, spacing, text creations, text editing, and printing. 3 class hours per week. **Prerequisite:** SKILL IN THE OPERATION OF A TYPEWRITER AND FORMATTING; TW6622 or equivalent.

SL6674 Word Processing II: A 1-semester course; 3 credit hours. This course is designed to simulate the position of a correspondence secretary in a word processing center. The simulation incorporates input from handwritten copy and rough draft, and includes letters, memos, reports, stored paragraphs, stored documents with variables, and miscellaneous items. The simulation can be completed on a self-paced basis with supervision. The instructor as supervisor may also vary the flow of work in the "center". 3 class hours per week.

Prerequisite: Word Processing I.

SL6680 Medical Office Administration: A 1-semester course; 3 credit hours. Theory and problems in the management of the medical office including filing, making appointments, completing medical forms, telephone techniques, medical bookkeeping and dictation and transcription procedures related to the medical office. 3 class hours per week. **Prerequisite:** SH6677 and MR6605.

SL6682 Managerial Communications: A 1-semester course; 3 credit hours. Development and refinement of communication skills necessary for satisfactory job performance in business particularly on the managerial and

administrative levels. The course emphasizes various types of business letter writing, reports, memoranda, and business and legal forms common to the operation of the modern business office. The preparation of business documents will be coordinated with the concepts of electronic word processing/information management. class hours per week.

SOCIOLOGY

SO3321 Introduction to Sociology: A 1-semester course; 3 credit hours. This course is designed to provide the student with an understanding of 1) concepts basic to sociology; 2) the impact of social forces on human behavior; 3) modes of social interaction; and 4) relevance of sociology for the student as a member of the human community. 3 class hours per week.

SO3324 Cultural Anthropology: A 1-semester course; 3 credit hours. An introduction to the cultural diversity of contemporary humans. Subsistence, marriage, kinship, political organizations, religion and philosophy of selected non-European peoples to be studied with a special emphasis on the North American Indian and the Eskimo. 3 class hours per week.

SO3331 Marriage and the Family: A 1-semester course; 3 credit hours. The main focus of this course is the investigation of the physiological, psychological and sociological aspects of human sexuality, interpersonal communication and relationships, marriage, divorce, and alternative forms of family living. 3 class hours per week.

SO3333 Contemporary Social Problems: A 1-semester course; 3 credit hours. An analysis of the relationship between social structure and social problems in contemporary society. The course will emphasize: 1) the interdependence of all social problems; 2) the interaction between our institutional forms and social problems; and 3) the relationship between values and social action. 3 class hours per week.

SO3353 Introduction to Criminology: A 1-semester course; 3 credit hours. A survey of the patterns and evolution of adult criminal and juvenile delinquent behavior analyzed in terms of various theories of such behavior; administration of criminal justice, police, law, courts (including juvenile courts) and prisons. 3 class hours per week.

SO3354 Death and Dying: A 1-semester course; 3 credit hours. America is a death denying society. The hidden aspect of this universal experience has caused untold misery. Openness, honesty, sharing and personal consciousness-raising will enable people to lead richer, happier, more productive lives. Health worker, minister, teachers, police, parents, among others, can benefit from this course. Topics covered include medical definition, historic aspects, children and death, suicide, grief, rituals, and personal acceptance of death. 3 class hours per week.

SO3355 Introduction to Social Services: A 1-semester course; 3 credit hours. An introduction to social work and human service systems in America. An overview of historical and present characteristics and clinical issues in organizations such as family and child welfare agencies, youth and correctional agencies, child care centers, mental health institutions, and other agencies and services concerned with casework, group work and community organization work. Emphasis will be placed on knowledge of agencies and services, as well as worker's role and function in meeting the needs of the client population. 3 class hours per week.

SO3356 Psychosocial Aspects of Aging: A 1-semester course; 3 credit hours. Analysis of current social gerontological literature on theory and research pertaining to biological, psychological, and sociological variables over the adult life span. Age concern in later life, special concerns such as racism, alcoholism, sexuality, retirement, finances, recreation and leisure will be studied. The course will cover the changes in behavior that occur from adulthood to old age with emphasis on those variables which contribute to successful aging. The

role of family and community, especially the neighborhood support system will be examined in terms of their interaction with the aging individual. 3 class hours per week.

SO3358 Women and Society: A 1-semester course; 3 credit hours. An analysis of the effect of social structure on the position of women in society. Historical, cross-cultural and biological perspectives will be used to explore attitudes toward women and their economic and political positions. Women's issues will be viewed as they parallel general human issues. The course will encourage discussion of the possible effects of women's equality on the social structure of the future. 3 class hours per week.

SO3359 Work and Society: A 1-semester course; 3 credit hours. This course examines the institution of work as a growing source of conflicts between the desire for a fulfilling job and the need for productivity, between work and family, between people and machines, between unemployment and inflation. Some of the issues discussed are the changing meaning and nature of work, the role of government in shaping jobs and workplaces, the economic and social effects of increasing numbers of working women. The values and assumptions underlying the personal and public choices we make in resolving these issues will also be discussed. 3 class hours per week.

SPANISH

SP4401/SP4402 Introductory Spanish I & II: A 2-semester course; 3 credit hours per semester. For students who have not completed two years of high school Spanish or the equivalent as determined by the department. Audiolingual emphasis. Introduction to grammatical patterns, reading and writing. 3 class hours per week.

SP4421 Introductory Conversational Spanish I: A 1-semester course; 3 credit hours. Designed primarily for personnel in public service who need basic communication skills when dealing with speakers of Spanish only. Question/answer format; basic dialogue, pattern practices,

specialized vocabularies to meet individual needs. 3 class hours per week.

SP4422 Introductory Conversational Spanish II: A 1-semester course; 3 credit hours. Pattern practice, dialogues, question/answer format; specialized vocabularies to meet individual needs. 3 class hours per week. **Prerequisite:** SP4421 or equivalent.

SP4423 Conversational Spanish III: A 1-semester course; 3 credit hours. This course is open to students who have completed an introductory Spanish college-level course. Question/answer format; dialogues; specialized vocabularies to meet specific needs; specialized writing skills introduced. Conducted in Spanish. 3 class hours per week. **Prerequisite:** SP4422 or equivalent.

SP4424 Conversational Spanish IV: A 1-semester course; 3 credit hours. Question/answer format; specialized writing skills; specialized vocabularies to meet specific needs. Conducted in Spanish. 3 class hours per week. **Prerequisite:** SP4423 or equivalent.

SP4451/SP4452 Intermediate Spanish I & II: A 2-semester course; 3 credit hours per semester. For students who have completed two or more years of high school Spanish or the equivalent as determined by the department, or who have completed SP4401 and SP4402. A continued study of language skills, emphasizing the development of reading ability. 3 class hours per week.

SP4461/SP4462 Review and Progress in Spanish I and II: A 2-semester course; 3 credit hours per semester. A review of basic structure, verbs, and related essentials. Intended for native speakers, Hispanic students, majors and non-majors. Strengthens skills in speaking, reading, and writing. Vocabulary and pronunciation improvement; short compositions. Reading and discussion of selected short stories, poetry and folklore. Course tailored to meet individual needs. 3 class hours per week. **Prerequisite:** SP4401 and SP4402 or permission of the instructor.

THEATRE

TH7765 Introduction to Theatre: A 1-semester course; 3 credit hours. This course has two general goals. First, to introduce the contemporary theatrical world: playwright, producer, theater structures, director, actor, technicians and designers. Second, to apply knowledge in a practical experience situation. 3 class hours per week.

TH7769 Acting: A 1-semester course; 3 credit hours. A lecture-performance course designed to familiarize the student with basic acting techniques. Discussion and exercises explore the vocal, bodily, and psychological aspects of acting. Script analysis, characterization, and performance. 3 class hours per week.

TH7775 Fundamentals of Play

Production: Directing: A 1-semester course; 3 credit hours. The methods and techniques of directing. Adjunct activities lighting, design, costume, makeup - are included. After seminars and scenework, students direct short plays. 3 class hours per week.

TH7785 Mime: A 1-semester course; 3 credit hours. The mime (or pantomime) expresses ideas and concepts using the body as primary communication. Toward this end, classical mime technique is incorporated with exercises from other movement disciplines. Readings and attendance at professional mime shows add background knowledge which enhances student performance. 3 class hours per week.

TH7789 Playwriting: A 1-semester course; 3 credit hours. Discussion concerning plot, character and dialogue leads to student written scenes and plays, which are evaluated by the class and may be staged in workshop fashion. 3 class hours per week.

TH7795 History of Theatre: A 1-semester course; 3 credit hours. A history of Western theatre from Greek to modern times. The focus of this course is on theatre architecture, production methods, acting styles and dramatic writing style in each period discussed. 3 class hours per week.

TH7799 Rehearsal and Performance: A 1-semester course; 3 credit hours. Students in this course constitute an acting ensemble which produces plays. Historical, structural and character analysis in both pre-rehearsal and rehearsal. Public performances. Critiques of performances. 3 class hours per week. **Prerequisite:** Audition and written permission of instructor.

TYPEWRITING

TW6610 Keyboarding for Information Processing: A 1-semester course; 1 credit hour. This course is designed to teach keyboarding skills to students entering a variety of fields such as computer science, data processing, accounting or any occupation that utilizes a keyboard similar to a typewriter to input information. 4 class hours per week.

TW6621 Typewriting I: A 1-semester course; 3 credit hours. Foundation course to vocational typewriting. Development of correct basic typewriting skill. Introduction to short business and personal letters, tables, reports and other typewriting applications. 4 class hours per week.

TW6622 Typewriting II: A 1-semester course; 3 credit hours. Development of requisite typing skills, experience and knowledge expected of a typist new to office employment. Development of ability to make basic editorial corrections and to type manuscripts, business forms, tabulations and correspondence. 4 class hours per week. **Prerequisite:** TW6621 or equivalent.

TW6631 Typewriting III: A 1-semester course; 3 credit hours. Extension of typewriting skill to higher performance levels. Emphasis on typing unfamiliar and unarranged kinds of materials. Statistical typing. Production typewriting. 4 class hours per week. **Prerequisite:** TW6622 or equivalent.

TW6632 Typewriting IV: A 1-semester course; 3 credit hours. Mastery of ability to produce rapidly long manuscripts related to reports, magazine articles and speeches. Development of the ability to compose correspondence and edit the business

writings of others. Production typewriting with the development of vocational rates of speed. 4 class hours per week.

Prerequisite: TW6631.

TW6641 Technical Typewriting: A 1-semester course; 3 credit hours. Correct use of spelling of scientific terminology. Development of skill in typing technical and engineering correspondence, reports, rough drafts and manuscripts which contain various mathematical and chemical equations. 4 class hours per week.

Prerequisite: TW6631.

Northern Essex Community College

OCCUPATIONAL ADVISORY COUNCIL

John J. Linnehan, Chairman

Director, C. Frank Linnehan & Son Funeral Service, Haverhill

Guilmo Barrio, Affirmative Action Officer, City of Haverhill

John C. Cahalane, Rep., U.S. Dep't of Labor, Bureau of Apprenticeship & Training, Boston

Edwin Costa, Plant Manager, Compugraphic Corporation, Bradford

Joseph R. Duggan, Employment & Training Consultant, Merrimack Valley Alliance of Business, Lawrence

Terry Kenney, President, AID, Temporary Services, Lawrence

Pamela Kvilekval, Pupil Personnel Administrator, Dep't of Public Schools, Andover

Claude Lancome, Marblehead

Charles McCarthy, Business Agent, Local 522, Int'l Brotherhood of Electrical Workers, No. Andover

Joseph Miett, Department Chief, Training & Training Development, Merrimack Valley Works, Western Electric Company, No. Andover

Roger H. Muir, Regional Director, Division of Employment Security, Massachusetts State Employment Service, Lawrence

Frank Orlandella, Human Resources Manager, Hewlett Packard Company, Andover

Michael Salach, Gould Incorporated, Modicon Division, Andover

George Sheehan, Director of Development, Region III, Department of Commerce, Lowell

Daniel Tuccolo, Vice-President, Local 1365, Communication Workers of America, No. Andover

Robert E. Webber, President, Bank of Boston, Haverhill

PROGRAM ADVISORY COMMITTEES

Community-based professionals, experts in the varied academic disciplines available at Northern Essex Community College, are appointed by the President of the College to advise on the development of programming which will reflect an integration of current community needs with the mission of the college.

Business Administration

Dick Amido, President, Merrimack Valley Chapter, American Institute of Banking

Burt Barrett, Barrett's Men's Store, Haverhill

Joseph Giampa, Supervisor, Western Electric Company, No. Andover

Herbert Phillips, Attorney at Law, Haverhill

Philip Saracusa, Cost Analyst, Raytheon Corp., Andover

Civil Engineering

James Bougioukas, Director of Surveying, State Department of Public Works, Haverhill

William Haskell, University of Lowell

Raymond Mansour, Contractor, Andover

Antonio Nicolosi, Municipal City Engineer, Lawrence

Community Residence Manager Program

Lucille Benson, Andover

Lucia Cripps, EMARC, Reading

Peter Cullinane, Director, Appleton House, Lowell

John Durant, John Barry Unit, No. Reading

Patricia Eato, Fidelity, Inc., Lawrence

Linda Kwalek, EMARC, Melrose

David McGuire, Director, Residential Services, Greater Lawrence Psychological Center

Tom McLaughlin, Northeast Family Institute, Danvers

Donna Nichols, Client Management System, Region X, Plaistow, NH
Bruce Palmer, MH/MR Area Office, Merrimac
Skip Parks, Harbour Schools, Inc., Amesbury

Computer Technology

Stephen Foss, Bell Laboratories, Andover
John Hall, Bell Laboratories, Andover
Don Hedman, DEVCON Corporation, Danvers
David Messina, Wang Lab, Lowell
James Smyth, Educational Software, No. Andover

Cooperative Education

Edward Coakley, Greater Lawrence Technical School, Andover
Robert Dumont, Victim Witness Assistance Program, Lawrence
Jonelle Flannagan, Gloucester
Jean Fletcher, Personnel Director, Baybank/Merrimack Valley, Andover
Jeannette MacDonald, Executive Director, Kimi Nichols Center, Plaistow, NH
Donald K. Martin, Director of Auditing, Western Electric Company, No. Andover
Cheryl Marino, Consultants & Designers, Atkinson, NH
Mary Murphy, Andover

Criminal Justice

POLICE:

Joseph Garand, City Marshal, Newburyport
Edward Higgins, Lieutenant of Police (Ret.), Massachusetts State Police
Edward J. LeClair, Director of Criminal Justice, Salem State College
Robert Tyrrell, Chief of Police, Dracut

COURTS:

Arthur Delaney, Chief Probation Officer, Haverhill District Court
Robert Donahue, Probation Officer, Newburyport District Court

CORRECTIONS:

Robert Flanagan, Ass't Commissioner of Corrections, Dep't of Corrections, Boston
Charles H. Reardon, Sheriff, Essex County, Salem
Dominic Tuccolo, Acting Deputy Sup't, Essex County House of Corrections, Lawrence

SECURITY:

Frank Baggett, Security Manager, Systems Division, Avco Corp., Wilmington
John A. Harrington, Manager of Corporate Security, Wang Corp., Lowell
Richard Wolkivits, Director of Security, New England Nuclear Corp., Boston

EDUCATORS:

Robert Croatti, Ass't Dean, College of Criminal Justice, Northeastern University
Dr. Joseph Lipchitz, Coordinator, Administration of Law & Justice, University of Lowell
Dr. Edward LeClair, Director, Criminal Justice Program, Salem State College

Dental Assistant

Dr. Eugene Beliveau, No. Andover
Dr. John Daykos, Lawrence
Dr. Joseph Gemmell, Andover
Dr. Steven Halem, Andover
Judith Harvey, Academic Director of Professional Affairs, N.E. Dental Collaborative, Braintree
Paula Kesslak, CDA, Andover
Dr. Rudolph Lantelme, Lawrence
Jean Marks, Coordinator of Home Mgt., Greater Lawrence Technical School, Andover
Melissa Messina, CDA, Lawrence
Dr. Milton Meyers, Lawrence
Doris Proposki, CDA, Lawrence

r. John Rizza, Lawrence
r. James Skillings, President, Merrimack Valley District Dental Society, Andover

Early Childhood Education

neila Balboni, Director, Lawrence Community Day Care Center
n Cotton, Family Day Care Coordinator, Office for Children, Middleton
eorgia Gray, Family Day Care Licenser, Office for Children, Peabody
harlotte Gulezian, Director, Merrimack Child Care Center, Haverhill
ephanie Herman, GLCA Day Care, Lawrence
arilyn Johnson, Educational Coordinator, Headstart, Haverhill
artin Kadel, Boy Scouts of America, Haverhill
aryellen Harrison King, Lawrence
anne Lynch, Peabody School, Haverhill
aureen Moss, Director, Spring Street School, Newburyport
ene Rochwarg, Director, ECLC Learning Center, No. Andover
livia Stephenson, Family Cooperative Preschool, No. Andover
an Sweeney, Licensing Agent, Office for Children, Middleton
arren Thuotte, Superintendent of Schools, Haverhill

Electronic Technology

arvey Cole, Missile Systems Division, Raytheon Corp., West Andover
aurice Foulds, AT & T, No. Andover
oseph Richard, Appollo Computer, Tewksbury
onald Smith, AT & T, No. Andover
ichael Sommers, Hewlett Packard Company, Andover

Gerontology

inet Boulanger, Ass't Administrator, Hale Hospital, Haverhill
ephen Boy, M.Ed., R. Habbick Associates, Haverhill
anette Courtemanche, Vice-Chairperson, Greater Lawrence Council on Aging, Methuen
arin Coulton, Community Educator, Elder Services of Merrimack Valley, Lawrence
ev. Norman Crook, Director, Bethany Homes, Haverhill
ay Futrell, Ph.D., F.A.A.N., Chairperson, Dep't of Nursing, University of Lowell
my Hourihan, R.N., Director of Nursing, Exeter Health Care
ez Lund, Chairperson, Councils on Aging, Haverhill/Newburyport
nice Maher, R.N., Anna Jaques Hospital, Newburyport
th McCarthy, LICSW, Trullbrook Psychological Service, Lowell
on McCaul, LICSW, Director, Children's Aid & Family Society, Haverhill
my Olenio, Graduate in Gerontology, Northern Essex Community College

Interpreter Training

raig Anderson, Coordinator of Deaf Student Services, Northeastern University
ancy Becker, Winchester
athy Cogen, Instructor/Coordinator, Sign Language Programs, Northeastern University
th Dubin, House Director, N.S.A.R.C., Salem
r. Robert Hoffmeister, School of Education, Boston University
ephen Nover, School of Education, Boston University
onna Panko, South Hamilton
zanne Rowley-Vianni, Coordinator, NH Services for Hearing-Impaired, Goffstown, NH
r. Fred Roy, Director, Registry of Interpreters for Deaf, Silver Spring, MD

Censused Practical Nursing

ster Terese Capistran, Executive Director, Mary Immaculate Nursing Home, Lawrence
nthonny A. Copani, Attorney-at-Law, No. Andover
osa Costa, Reception Center, LEEP Coordinator, Lawrence
nda Cutler, R.N., Director of Nursing Education, Lowell General Hospital

Dorothea Hughes, R.N., Director of Nurses, Bon Secours Hospital, Methuen
 Deborah Jacobsen, L.P.N., Methuen
 Carmella Mancini, L.P.N., Administrator, Anlaw Nursing Home, Lawrence
 Janet Miller, R.N., Director of Nursing, Lawrence General Hospital
 Bart N. Quirinale, M.D., Salem, N.H.
 Carlos Rosella, Ass't Principal, Lawrence High School
 Joyce Shannon, Director of Nursing, Henry C. Nevins Home, Methuen
 David Solomont, Administrator, Academy Manor Nursing Home, Andover
 Maureen Swarbrick, R.N., No. Andover
 Suzanne Tetreault, New Bedford

Medical Record

Carolyn F. Bashaw, Ass't Administrator, Anna Jaques Hospital, Newburyport
 Cheryl M. Broderick, RRA, Director, Medical Records, Lawrence General Hospital
 Barbara Curley, ART, Director, Medical Records, Malden Hospital
 Steven Molloy, RRA, Director, Medical Records, Lowell General Hospital
 Charlene Michaud Potter, ART, Danvers
 Pamela Woodman, RRA, Director, Medical Records, Anna Jaques Hospital, Newburyport

Mental Health Technology

Dave Allium, Detoxification Unit, Lawrence General Hospital
 Mary Lou Boes, R.N., Greater Lawrence Inpatient Unit, Hathorne
 Karen Botti, Hogan Regional Training Center, Hathorne
 Ann Clark, Middleton
 George Curtin, Pupil Services, Haverhill School Department
 Jack Doyle, Alcohol Unit, Hampstead Hospital, N.H.
 Peggy Duckworth, R.N., Hampstead Hospital, N.H.
 Elissa Genster, H. Saloman Mental Health Center, Lowell
 Bernice Hauvauras, John T. Berry Unit, No. Reading
 Marilyn Hobby, Opportunity Workshop, Newburyport
 Sally Howard, Day Activity Center, Haverhill
 Diane Lovasco, Bon Secours Hospital, St. Dymphna Hall, Methuen
 Bruce Nardella, Northeastern Family Institute, Middleton
 Douglas Peterson, North Essex Mental Health Center, Haverhill
 Alexander Rutherford, Harbour School, Newbury
 Nick Sarbanis, Timberlane Junior High School, Plaistow, NH
 Karen Shack, Women's Resource Center, YWCA, Lawrence
 George Szelest, St. Ann's Home, Methuen
 Kathleen Tessitore, Greater Lowell Association for Retarded Citizens
 Raymond Wiseman, Prospect Halfway House, Lawrence

Office & Business Education

Joseph C. DeBilio, Employment Manager, Raytheon Corp., Andover
 Ellen M. Dyer, Supervisor, Benefit Organization, AT & T, No. Andover
 Julia Faulkner, Chairperson, Business Department, Haverhill High School
 Maryjane Forbes, Word Processing Textbook Author, Office Automation Manager, Encore Inc.
 John Lennon, President, Industrial Management Systems, Haverhill
 Nancy Pasko, Administrative Assistant, Haverhill Public Schools
 Marilyn Popyek, Word Processing & Microcomputer Textbooks Author

Paralegal Studies

Judge Urville Beaumont, Salem, NH
 Linda Conrad, Esquire, Moquin & Daley, Boston
 Clifford E. Elias, Esquire, Professor of Law, Suffolk University Law School, Boston
 Patricia Lomans, Esquire, Internal Revenue Service, Boston

Kathryn B. McCarthy, Paralegal, Donahue and Donahue, Lowell
Leslie Orland, Paralegal Program Graduate, Methuen
Attorney Herbert Phillips; Phillips, Gerstein, Holber, LaFlamme, Migliori & Barron; Haverhill
Dr. Donald Ruhl, Executive Director, Haverhill Chamber of Commerce

Radiologic Technology

Andre Belander, R.T. (R), Director of Radiology, Lawrence General Hospital
Nathaniel Bond, Administrator, Hale Hospital, Haverhill
Jane Bourque, R.T. (R), Lawrence
Mary Ellen Davis, RT, Chief Technologist, Bon Secour Hospital, Methuen
William Doak, R.T. (R), Chief Technologist, Lawrence General Hospital
Neil Gator, Radiation Protection Specialist, Medford
Michael Kinsella, M.D., Chief Radiologist, Bon Secour Hospital, Methuen
Rosemary Melia, R.T. (R), Clinical Instructor, Bon Secour Hospital, Methuen
Michelle O'Brien, R.T. (R), Chief Technologist, Lowell General Hospital
Dr. Kenneth Pedini, Chief Radiologist, Lawrence General Hospital
Debbie Ralls, R.T. (R), Clinical Instructor, Lawrence General Hospital
Gene Rehse, R.T. (R), Chief Technologist, Hale Hospital, Haverhill
Dr. James Rourke, Chief Radiologist, Lowell General Hospital
Dr. Mier Seggev, Chief Radiologist, Hale Hospital, Haverhill
Woodie Surpitski, R.T. (R), Clinical Instructor, Hale Hospital, Haverhill
Florence Wakefield, RN, R.T. (R), Methuen
Paul Woods, R.T. (R), Clinical Instructor, Lowell General Hospital,

Registered Nursing

Margaret Duckworth, Chairperson; Director of Nurses, Hampstead Hospital, NH
Joan Callaghan, Director of Nursing, St. Joseph's Hospital, Lowell
Donald Gauthier, M.D., North Billerica
Russell C. Goldbaum, M.D., Haverhill
Dorothea Hughes, Director of Nurses, Bon Secour Hospital, Methuen
Nancy Lagasse, Haverhill
Gary Kraus, M.D., West Newbury
Sr. Ann MacKenzie, Director of Nursing, St. John's Hospital, Lowell
Marion Maki, Director of Nurses, Monrath Pediatric Nursing Center, Groton
Diane McDonald, Vice-President, Patient Care Services, Lowell General Hospital
Theodore Payos, Guidance Counselor, Haverhill High School
Carlos Rosello, Assistant Principal, Lawrence High School
Herbert Schultz, Attorney at Law, Lawrence
M. Patricia Sheehan, Ed.D., R.N., V.P. Department of Nursing, Lawrence General Hospital
John P. Shyavitz, Attorney at Law, Haverhill
Sally Stalker, Director of Nurses, Anna Jaques Hospital, Newburyport
Richard G. Traister, M.D., Amesbury

Respiratory Therapy Technology

Thomas Bastek, R.R.T., Danvers
Ernest Irving Buchwald, M.D., St. John's Hospital, Lowell
Michael Cikacz, R.R.T., Hunt Memorial Hospital, Danvers
William Desmarais, R.R.T., St. John's Hospital, Lowell
Philip Drews, R.R.T., Malden Hospital
Louis Fossarelli, Haverhill
William Goding, R.R.T., M.S., North Shore Community College, Beverly
T. Philip Kosmes, Haverhill
Madeline MacCallum, R.R.T., St. John's Hospital, Lowell
Dan Mirandette, C.R.T.T., Hale Hospital, Haverhill
Joseph Moiligi, St. Joseph's Hospital, Lowell

Bruce Randall, R.R.T., M.S., New England Memorial Hospital, Stoneham
 Margaret Smith, C.R.T.T., St. Joseph's Hospital, Lowell
 Daniel Thompson, R.R.T., Lahey Clinic Medical Center, Burlington

Student Health

Armand DeGrenier, Wellspring, Newburyport
 Joan Driscoll, R.N., Board of Health, Haverhill
 Ellen Hanick, Merrimack Valley Health Planning Council, Lawrence
 Bessie Leonardis, Executive Director, Haverhill Chapter Red Cross
 Dr. Arthur S. O'Grady, Director, North East Essex Mental Health Center, Haverhill
 Dr. Robert Provasoli, D.C., Newburyport
 Dr. Martin Rothman, M.D., Haverhill
 Dr. Richard Traister, Medical Director, Northern Essex Community College
 Grace Vasta, Registered Pharmacist, Lawrence
 Barbara Whiteside, Health Services, Shawsheen School, Andover

VISITING PROFESSORS

Donald Gauthier, M.D.	Nursing
John Jascoll, Tec. Rep.	Radiologic Technology
Gary Kraus, M.D.	Nursing
James Schaefer, Technical Representative	Radiologic Technology
John P. Shyavitz, Attorney at Law	Nursing
Daniel Taffe, M.D.	Nursing
Carter B. Tallman, M.D.	Nursing

ADJUNCT FACULTY

Edward Aileo, R.R.T.	Respiratory Therapy
Thomas Bastek, R.R.T.	Respiratory Therapy
Peter Betit, R.R.T.	Respiratory Therapy
Carlton Boucher, R.R.T.	Respiratory Therapy
Lynne Bower, R.R.T.	Respiratory Therapy
Charles Carlin, R.R.T.	Respiratory Therapy
Dr. Santo Cataudella	Dental Assistant
Dr. A.R. Contarino	Dental Assistant
Catherine Dolan, R.R.T.	Respiratory Therapy
Dr. John Doykos	Dental Assistant
Philip Drews, R.R.T.	Respiratory Therapy
Edward Farrell, R.R.T.	Respiratory Therapy
Dr. Joseph Gemmell	Dental Assistant
Dr. Edward Hassey	Dental Assistant
Chief James Johnson	Criminal Justice
Dr. Joseph Kalil	Dental Assistant
Aimee Kaufman, R.R.T.	Respiratory Therapy
Dr. Thomas Lamson	Dental Assistant
Madeline MacCallum, R.R.T.	Respiratory Therapy
Paula Martin, R.N.	Respiratory Therapy
Rosemary Melia, R.T.R.	Radiologic Technology
Helen Merlin, R.R.T.	Respiratory Therapy
Dr. Milton Meyers	Dental Assistant
Daniel Mirandette, C.R.T.T.	Respiratory Therapy

Edward Monaghan, R.R.T.	Respiratory Therapy
Elise Moore, RT	Radiologic Technology
Ken Murphy, R.R.T.	Respiratory Therapy
Mary Lou Myrer, R.N.	Respiratory Therapy
Michael Pare, R.R.T.	Respiratory Therapy
Debbie Ralls, R.T.R.	Radiologic Technology
Dr. John Ristuccia	Dental Assistant
Dr. John Rizza	Dental Assistant
James Schena, R.R.T.	Respiratory Therapy
Dr. Howard Smith	Dental Assistant
Peggy Smith, C.R.T.T.	Respiratory Therapy
Woodie Surpitski, R.T.R.	Radiologic Technology
Isabelle Terrill, R.R.T.	Respiratory Therapy
Daniel Thompson, R.R.T.	Respiratory Therapy
Linda Trofimow, R.R.T.	Respiratory Therapy
Dr. Frank Troianello	Dental Assistant
Dr. Robert Urbon	Dental Assistant
Dr. Stephen Weisner	Dental Assistant
Paul Woods, R.T.R.	Radiologic Technology
Alan C. Wyatt	Respiratory Therapy

PROFESSIONAL STAFF

Rosa Acevedo Costa, *Staff Associate, Reception Center Coordinator, Lawrence Education/Employment Project* A.S., North Shore Community College; B.S., Suffolk University; M.A., State University of New York at Buffalo

Charles L. Adie, *Chairperson, Department of Mathematics* B.S., University of Notre Dame; M.A., Boston College

Diane Alaimo, *Instructor (Part-Time), Respiratory Therapy Technology* A.S., Northern Essex Community College; B.S., University of Lowell

Vincent Alsfeld, *Professor, Department of Business Administration* A.B., Brown University; M.B.S., University of Rhode Island

Chris Armstrong, *Coordinator, Radiologic Technology Program* R.T.(R.); A.S., Middlesex Community College; B.S., Northern Arizona University

Elizabeth Arnold, *Professor, Department of English* A.A., Blackburn College; B.S.Ed., Illinois State University; M.A., University of Iowa

Ernest W. Arnold, Jr., *Professor, Department of Technology* P.E., R.L.S., B.S.E.E., M.S.E.E., Worcester Polytechnic Institute

Jack L. Aronson, *Chairperson, Department of Foreign Languages, Philosophy & Religion* A.B., A.M., Boston University; B.J.Ed., Hebrew Teacher's College; A.M.T., Harvard University; Ed.D., Boston University

George H. Bailey, *Chairperson, Department of English* A.B., M.A., Boston College; Ph.D., University of Wisconsin

Paul Bamberger, *English as a Second Language Instructor, Division of Instructional Development* B.A., University of New Hampshire; M.F.A., University of Massachusetts

Sandra Bancroft, *Employment Specialist for Disabled Students (Part-Time)* B.S., Plymouth State College; M.Ed., University of New Hampshire

Wynne B. Bascom, *Professor, Department of Business Administration* A.B., Tufts University; M.B.A., Babson Institute

- Carleton L. Beal, *Chairperson, Department of Sport and Leisure Studies* B.S., Springfield College; M.Ed., University of Massachusetts
- Mildred Beaton, *Associate Professor, Department of Office and Business Education* B.S., Salem State College
- Wayne Belair, *Instructor (Part-Time), Paralegal Programs* B.A., Merrimack College; J.D., Suffolk University Law School
- Priscilla B. Bellairs, *Associate Professor, Department of English* B.A., Michigan State University; A.M., Harvard University
- Patricia Belmont, *Assessment Center Coordinator, Division of Instructional Development* A.A., Northern Essex Community College; B.A., Merrimack College
- Maureen Bernier, *Math Lab Instructor, Division of Instructional Development* B.A., Salem State College
- Adrien Berthiaume, *Coordinator of Electronics*, B.S., Worcester Polytechnic Institute
- Paul M. Bevilacqua, *Chairperson, Division of Human Services & Health Professions* A.B., Merrimack College; M.A., Northeastern University
- Wallace W. Blanchard, *Professor, Department of Natural Science* B.S.Ed., Fitchburg State College; M.S., Northeastern University
- Alexander Boch, *English as a Second Language Staff Assistant (Part-Time), Division of Instructional Development* A.B., M.A., University of Miami
- Eugene E. Boles, *Associate Professor, Department of Creative Arts* B.A., M.F.A., University of Oregon
- Paula A. Boxer, *Assistant Professor, Department of English* A.B., Jackson College; A.M., Boston University
- Sharon Boyd, *Math Lab Staff Assistant (Part-Time) Division of Instructional Development* B.S., Miami University; M.A., Clarke School for the Deaf, Smith College
- James C. Bradley, *Chairperson, Department of Behavioral Sciences* B.A., M.Ed., Salem State College
- Gabriel Brahm, *Professor, Department of English* B.A., Columbia University; M.A., University of Minnesota
- H. Eric Branscomb, *Writing Lab Coordinator, Division of Instructional Development* B.A., Case Western Reserve University; M.A., Youngstown State University
- Karen Breehey, *Director of Public Information and Alumni Affairs* ... B.A., Boston University
- Jean Brennan, *Director, Gallaudet College Regional Center at Northern Essex Community College* M.Ed., University of Massachusetts
- Jane E. Brooks, *English as a Second Language Staff Assistant (Part-Time), Division of Instructional Development* B.A., Western Michigan University; M.A., Institute of Open Education, Antioch Graduate School
- Michael Broughton, *Assistant Professor, Computer Science* B.A., Merrimack College; M.S., University of Lowell
- Donna Brown, *Staff Assistant in Staff Development (Part-Time)* B.A., Willamette University; M.A., Ph.D., Claremont Graduate School
- James Brown, *Associate Professor, Department of Mathematics & Department of Foreign Languages, Philosophy & Religion* B.S., University of Delaware; A.M., Boston University
- Joseph H. Brown, *Dean of Administrative Services* B.S., College of the Holy Cross; M.B.A., Suffolk University
- Priscilla Caira, *Coordinator, Computer Science* A.S., B.S., Northeastern University

James Canino, *Instructor (Part-Time), Department of Behavioral Sciences* B.A., State University of New York at Buffalo; M.A., Arizona State University

Terry Cargan Cheetham, *Instructor (Part-Time), Occupational Skills Center* B.A., State University of New York at Albany

Paul E. Carlotto, *Continuing Education Coordinator (Part-Time), Occupational Skills Center* B.S., M.Ed., Fitchburg State College; E.E.D., Temple University

R. David Carver, *Instructor (Part-Time), Department of Business Administration* B.A., Boston University

Francis L. Champoux, *Associate Professor, Department of Natural Science* B.S., Salem State College; M.Ed., University of Florida

Edward P. Champy, Jr., *Associate Professor, Department of Technology* B.S.M.E., Lowell Technological Institute

Constance Christmas, *Staff Assistant, Health Services* B.S., Simmons College; Diploma in Nursing, M.Ed., Salem State College

Elaine M. Clark, *Instructor (Part-Time), Paralegal Programs* B.S., Salem State College; J.D., University of Miami

Francis W. Cleary, *Instructor (Part-Time), Department of Business Administration* A.S., Northern Essex Community College; B.S., Babson College

Elizabeth Huntley Cole, *Director of Admissions* B.A., Merrimack College; M.A., Syracuse University; C.A.G.S., University of Massachusetts

Francis Collopy, *Assistant Professor, Department of Engineering* B.S., Merrimack College; M.S., Tufts University

Linda Comeau, *Staff Assistant (Part-Time), Financial Aid & Special Services* A.A., Northern Essex Community College; B.A., Salem State College

Eugene F. Connolly, *Professor, Department of English* B.S., Marist College; M.A., St. John's University; Ph.D., Boston College

Linda Conrad, *Instructor (Part-Time), Department of History & Government* B.J., University of Missouri; J.D., New England School of Law

Donald R. Conway, *Professor, Department of Foreign Languages, Philosophy & Religion* B.A., University of California at Berkeley; M.A., Middlebury College Language School

Regina Correia-Branco, *Bursar* B.A., Wheaton College; M.A., New Hampshire College

Glee Corsetti, *Instructor (Part-Time), Respiratory Therapy Technology* A.S., Northern Essex Community College; B.S., University of New Hampshire

Romana Cortese, *Instructor Department of English* B.A., M.A., State University of New York at Buffalo; Ph.D., University of Wisconsin

Elizabeth R. Coyne, *Director of Counseling* B.S., M.S., Duquesne University; C.A.G.S., Boston University

Mai Cramer, *Instructor (Part-Time), Department of English* B.A., University of Massachusetts; Ed.M., Harvard University

Cynthia Crivaro, *Assistant Professor, Department of Behavioral Sciences* A.A., Bradford College; B.A., University of New Hampshire; M.S., Northeastern University

Herbert C. Crook, *Associate Professor, Department of Foreign Languages, Philosophy & Religion* A.B., A.M., Harvard University

Sally Crotty, *Instructor (Part-Time), Registered Nursing Program* B.S., University of New Hampshire; R.N. Diploma, Mary Hitchcock Memorial Hospital School of Nursing

Howard W. Crowell, *Associate Professor, Department of English and Department of Foreign Languages, Philosophy & Religion* A.B., A.M., Boston University

Catherine Dabrowski, Instructor, Registered Nursing Program, B.S., Boston State College; M.S., Boston College; R.N., Framingham Union Hospital

Marcia Dalton, *Instructor (Part-Time), Department of Office & Business Education* B.S., Boston University; M.Ed., Salem State College

Ronald Darois, *Instructor (Part-Time), Electronics*

Carole Davis, *Instructor (Part-Time), Medical Record Technology Program* B.A., University of New Hampshire; R.R.A., St. Mary's School for Registered Record Librarian

Anne Marie Delaney, *Director of Research* A.B., Emmanuel College; M.S.W., Ph.D., Boston College

Matilda DelVecchio, *Comptroller* B.S., M.A., Suffolk University

Frank DeSarro, *English as a Second Language Instructor, Lawrence Education/Employment Project* A.A., Xavierian College; A.B., Wesleyan University; M.A.T., Webster College

Nunzio DiMarca, *Staff Associate, Business and Industry Liaison, Lawrence Education/Employment Project* A.A., Northern Essex Community College; B.A., Merrimack College

Edward A. DeSchuytner, *Professor, Department of Natural Science* B.A., Northeastern University, Ph.D., Boston College

J. Alphee Desjardins, *Professor, Department of Natural Science* B.A., University of Colorado; M.Ed., Boston University; M.S., Worcester Polytechnic Institute

Linda Desjardins, *Instructor, Department of English* A.S., Northern Essex Community College; B.A., Lowell State College; M.Ed., Salem State College

Sandra DeVellis, *Assistant Professor, Department of Behavioral Sciences* A.B., Northeastern University; M.S.W., Washington University

Mary DiGiovanni, *Coordinator, Mental Health Technology Programs* B.S., M.S., Boston College

John R. Dimitry, *President of the College* B.S., M.Ed., Ph.D., Wayne State University

Pham-Nha Do, *Staff Assistant Intake Counselor (Part-Time), Lawrence Education/Employment Project* B.S., University of Lowell

Clifford Dolfe, Jr., *Instructor (Part-Time), Department of Business Administration* A.S., Northern Essex Community College; B.A., Bradford College; M.B.A., C.A.G.S., New Hampshire College

Pamela A. Donahue, *Associate Professor, Department of Office & Business Education* A.A., Northern Essex Community College; B.S., M.Ed., Salem State College

Carol Dowling, *Associate Professor, Registered Nursing Program* R.N., B.S.N., St. Anselm's College; M.S., Boston University

Walter B. Drescher, *Professor, Department of Mathematics* B.S., M.Ed., Salem State College

Richard Driscoll, *Instructor (Part-Time), Criminal Justice Program* B.S., University of Lowell; J.D., Suffolk University Law School

Maureen Duff, *Staff Assistant, Office of the President* B.F.A., Rutgers University; M.A., Emerson College

Roger Dufresne, *Instructor, Department of Business Administration* A.S., Northern Essex Community College; B.S., Lowell Technological Institute; M.B.A., Seton Hall University

Jean Dyer, *Instructor (Part-Time), Registered Nursing Program* B.N.S., Adelphi University, M.S.N., University of Rochester

Jo Ann Eckels, *Instructor (Part-Time), Registered Nursing Program* R.N., B.S.N., University of Wisconsin, M.S., Harvard University

Alfred C. Emerson, Jr., *Professor, Department of Business Administration* B.S., M.B.A., Northeastern University

Lillian Estes, *Reading Lab Instructor, Division of Instructional Development* B.S.Ed., Bridgewater State College; M.Ed., Salem State College

Stephen W. Fabbrucci, *Director of Personnel Services* B.B.A., University of Notre Dame; M.B.A., Boston College

Joseph Faro, *Instructor (Part-Time), Paralegal Programs* B.A., Merrimack College; L.L.B., L.L.M., Suffolk University Law School

Allen A. Felisberto, *Registrar* A.S., Bristol Community College; B.A., University of Massachusetts; M.A., University of Rhode Island

Marie Ferraguto, *Math Lab Staff Assistant, Division of Instructional Development* B.A., Emmanuel College

Robert Ficke, *Instructor (Part-Time), Department of English* B.A., Florida Southern College; M.A., University of New Hampshire

Angela Figueroa, *Assistant Professor, Department of Office & Business Education* A.S., North Shore Community College; B.A., Salem State College; M.Ed., Suffolk University

Michael G. Finegold, *Associate Professor, Department of Creative Arts* B.A., Brooklyn College; M.A., M.M.A., Yale University

John Finneran, *Professor, Department of Natural Science* A.B., Ed.M., Harvard University

James H. Fisk, *Professor, Electronics* B.S., University of Illinois; M.Ed., Salem State College

Richard Flaherty, *Instructor (Part-Time), Mental Health Programs* B.S., University of Maine; M.A., University of Chicago; Licensed Independent Clinical Social Worker (LICSW)

Peter Flynn, *Assistant Professor, Department of Behavioral Sciences* A.A., Cape Cod Community College; B.A., Boston University; M.A., University of New Mexico; M.Ed., Rhode Island College

Faith G. Flythe, *Professor, Department of Behavioral Sciences* A.B., Randolph-Macon Women's College; M.A., University of Arizona

Kevin Fontaine, *Instructor (Part-Time), Occupational Skills Center* B.S., Worcester Polytechnic Institute

June Fontes, *Coordinator, Academic Computer Laboratories* B.A., University of Connecticut

Sandra D. Fotinos, *Professor, English as a Second Language, Division of Instructional Development* A.B., Wellesley; M.A.T., Johns Hopkins University

Alan Foucault, *Director of Media Services* A.S., Northern Essex Community College; B.A., Bradford College; M.S., Boston University

Gregory Gadson, *Instructor (Part-Time), Paralegal Certificate Program* B.A.E., Georgia; J.D., Howard University Law School

Marcella Gadson, *Instructor (Part-Time), Paralegal Certificate Program* B.S., Middle Tennessee State University; J.D., Howard University School of Law

Kathleen Gallagher, *Assistant Director of Personnel Services* B.A., Emmanuel College; M.A., Boston College

Maureen Gannon, *Instructor (Part-Time), Department of English* B.A., University of Massachusetts; M.Ed., Boston State College; M.A., Middlebury College

Karen Garbaczewski, *Instructor, Department of Natural Science* A.A., Northern Essex Community College; B.S., University of Lowell; M.S., Florida Institute of Technology

Mary Jane Gillespie, *Staff Associate and Special Programming Coordinator, Division of Continuing Education & Community Services* B.A., Wellesley College; L.L.B., Harvard University

Joseph Glasser, *Director, Center for Business and Industry* B.S.E.E., Worcester Polytechnic Institute; D.Sc. (Hon.), University of Lowell; Retired Corporate Vice-President, Raytheon Corporation

William Glennon, *Staff Assistant, New England Extension Center of Gallaudet College at Northern Essex Community College* B.A., Gallaudet College; M.Ed., Boston University

Margaret Goldberg, *Staff Associate (Part-Time), Financial Aid & Special Services* B.A., Framingham State College; M.Ed., Northeastern University

Isabel Gomez, *Instructor, Computer Science* B.S., City College of New York

Arlene Goodman, *Instructor (Part-Time), Department of Business Administration* B.E., Plymouth State College

Diana Goodwin, *Instructor (Part-Time), Department of English* B.S., University of Massachusetts; M.A., University of California

Russell Gouveia, *Instructor, Computer Science* B.A., University of Massachusetts; M.A., University of Rhode Island

Darlene Graczyk, *Instructor (Part-Time), Registered Nursing Program* R.N., The Reading Hospital School of Nursing; B.S.N., Albright College

Noreen Grady, *Writing Lab Instructor (Part-Time), Division of Instructional Development* B.S.Ed., Lowell State College; M.Ed., Salem State College

Margaret Greenfield, *Program Director, Occupational Skills Center* B.S., Northeastern University; M.S., State University of New York

Corinne D. Grise, *Chairperson, Division of Mathematics, Science & Technology* A.B., Regis College; M.S.T., University of New Hampshire; Ed.D., Nova University

John Guarino, *Professor, Department of History & Government* B.A., Brandeis University; M.A., Doctoral Candidate in History, University of Michigan

James W. Gustafson, *Professor, Department of Foreign Languages, Philosophy & Religion* A.B., Wheaton College; B.D., Fuller Theological Seminary; Ph.D., Boston University

Elaine M. Haddad, *Assistant Professor, Registered Nursing Program* R.N., Lawrence General Hospital; B.S., M.S., Boston College

Thelma L. Halberstadt, *Professor, Registered Nursing Program* R.N., B.S., Plattsburg State Teacher's College; M.S., University of Rhode Island

Sylvia Hallsworth, *Coordinator, Registered Nursing Program* R.N., A.S., Northern Essex Community College; B.S., Lowell State College; M.S., Boston University

Kerin Hamidiani, *Coordinator, Dental Assistant Program* A.S., B.S., M.Ed., University of Vermont

Mary A. Harada, *Chairperson, Department of History & Government* B.S., A.M., Ph.D., Boston University

Dolores J. Haritos, *Director of Nursing Education* R.N.; B.S., M.S., Ed.M., Boston University; Ed.D., Boston College

Barbara Harris, *Staff Assistant Counselor, Division of Instructional Development* B.A., Boston University; M.A., Tufts University

Christopher Harris, *Medical Director (Part-Time), Respiratory Therapy Technology Programs* B.A., Wesleyan University; M.D., Hahnemann Medical College

J. William Harris, *Research Analyst (Part Time)* B.S. Massachusetts Institute of Technology; M.A., Ph.D., Johns Hopkins University

Melinda Hartford, *Reading Lab Instructor (Part-Time), Division of Instructional Development* B.A. Colorado College; M.A., Boston State College

Chester W. Hawrylcw, *Chairperson, Division of Humanities and Communication* B.S., Springfield College; M.A., University of California

Carol Hay, *Staff Assistant Math Center (Part-Time), Division of Instructional Development* B.A., Salem State College

Sharon Healey, *Instructor (Part-Time), Department of English* B.A., University of Lowell; M.A., Clark University

M. Jack Hess, *Director of Athletics & Intramural Recreation, Department of Sport & Leisure Studies* B.S., University of Dayton; M.Ed., Bowling Green University; Ed.S., Kent State University

George W. Hickey, *Associate Professor, Department of Business Administration* B.S.B.A., Merrimack College; M.B.A., Northeastern University; J.D., Suffolk University

Everett Hicks, *Coordinator (Part-Time), Title III Project* B.S., Boston University; Certificate for Specialized Study, Cite University, Paris, France

Edward J. Higgins, Jr., *Instructor (Part-Time), Criminal Justice Program* A.S., B.S., M.P.A., Northeastern University

Sandra Higgins, *Staff Associate (Part-Time), Occupational Skills Center* B.S., Boston University; M.Ed., Northeastern University

Allan D. Hislop, *English as a Second Language Coordinator, Division of Instructional Development* B.A., Dartmouth College; M.A., University of Rochester

Robert Hoddeson, *Instructor (Part-Time), Department of English* B.A., Williams College; M.A., University of New Hampshire

H. Kenrick Holden, Jr., *Professor, Department of Natural Science* B.S., Bates College; M.S., University of Maine

Dale Hollingshead, *Instructor (Part-Time), Data Processing, Division of Continuing Education & Community Services* B.A., Queens College; M.Div., Lutheran Theological Seminary

Donna Holt, *Writing Lab Staff Assistant, Division of Instructional Development* B.A., Salem State College

Ruth Hooten, *Assistant Librarian* B.A., Long Island University; M.L.S., Pratt Institute

Eleanor Hope-McCarthy, *Professor, Department of English* A.B., A.M., University of Michigan

Donald G. Horgan, *Chairperson, Department of Business Administration* B.S., Milligan College; M.Ed., Salem State College

Bernard Horn, *Professor, Department of English* S.B., Massachusetts Institute of Technology; Ph.D., University of Connecticut

Linda Hummel-Shea, *Assistant Librarian (Part-Time)* B.A., Northeastern University; M.L.S., Simmons College

William Huston, Jr., *Cordinator, Interpreter Training Programs* B.S., M.S., Boston University

Jeffrey Hutchins, *Instructor (Part-Time), Paralegal Programs* B.A., University of Massachusetts; J.D., Rutgers School of Law, L.L.M., New York University School of Law

Walter Jablonski, *Instructor (Part-Time), Department of Business Administration* B.A., M.A., University of Delaware; A.C.S., Hesser College

Douglass Jack, *Instructor, Department of Business Administration* A.S., Burdett College; B.S., Plymouth State College, M.Ed., New Hampshire College

Diane Jaquith, *Instructor (Part-Time), Department of Creative Arts* B.F.A., Bates College

Sotiris Katsaros, *Instructor (Part-Time), Department of English* S.B., Boston University; M.Ed., Harvard University

Sandra Kauffman, *Instructor, Medical Record Technology Program* A.S., Becker Junior College; B.S., Suffolk University

David B. Kelley, *Chairperson, Division of Instructional Development* B.S., Salem State College; M.S., Simmons College; Ed.D., Boston University

Maureen Kelley, *Assistant Professor, Department of Mathematics* B.A., Regis College; M.S., Salem State College

Penny Kelley, *Assessment Center Staff Assistant (Part-Time), Division of Instructional Development* B.A., Boston University; M.Ed., Salem State College

Joanne Kendall, *Instructor, Computer Science* B.S., B.A., Fitchburg State College

Robert Kennedy, *Instructor (Part-Time), Food Service Management Program*

Dennis Kepner, *Instructor, Electronics* B.S., U.S. Air Force Academy; Graduate Certificate; University of New Hampshire

Patricia A. Kepschull, *Health Care Coordinator* R.N., Diploma, Holy Cross College of Nursing; B.S.N., St. Anselm's College

Colleen Kilcoyne, *Director of Staff Development (Part-Time)* B.S., M.S., University of Connecticut

Dwight Killam, *Director of Computer Services*

Roland C. Kimball, *Professor, Department of English* B.A., Gordon College; M.A., University of New Hampshire

Nancy Kindelan, *Instructor (Part-Time), Department of Creative Arts* B.F.A., Kent State University; M.A., University of Akron; Ph.D., University of Wisconsin at Madison

Helen Kinniery, *Professor, Department of Office and Business Education* B.S., Ed.M., Boston University

Linda P. Kraus, *Professor, Department of English* M.A., Mather College; M.A., Western Reserve University

Betty Jane Kress, *Math Lab Instructor (Part-Time), Division of Instructional Development* B.A., Salem State College

Sheila B. Krim, *Director of Publications*

Norman J. Landry, *Dean of Student Services* B.S.Ed., State College at Bridgewater; Ed.M., Salem State College; M.A., Rutgers University; Ed.D., Nova University

Eileen Lathrop, *Instructor (Part-Time), Radiologic Technology Program* A.S., Middlesex Community College

Anne Laszlo, *Professor, Department of History and Government* B.A., Colby College; M.A., University of Chicago

Phelps T. Laszlo, *Professor, Department of Natural Science* B.A., University of Bridgeport; A.M., Clark University; Ph.D., University of New Hampshire

Joseph E. Laudani, *Associate Professor, Community Residence Manager Certificate Program* B.A., Merrimack College; M.S., University of Missouri

Francis J. Leary, *Professor, Department of Business Administration* B.S., Boston College; M.S., University of Lowell; C.C.D.E., Fitchburg State College

Joseph LeBlanc, *Instructor (Part-Time), Department of English* B.A., College of the Holy Cross; M.A., Boston College

Richard LeClair, *Admissions Counselor* B.S., Keene State College; M.Ed., Boston University

Rosemary Loveday, *Assistant Professor, Department of Sport & Leisure Studies* B.S., University of Massachusetts; M.Ed., Boston University

Jo Ann Mackey, *Instructor (Part-Time), Registered Nursing Program* R.N., Binghamton General Hospital; B.S., University of Bridgeport; M.N., University of California

Margaret Mangiapanc, *Staff Assistant Math Center (Part-Time), Division of Instructional Development* B.S., University of Massachusetts

Adalberto Marin, *Staff Assistant Intake Counselor (Part-Time), Lawrence Education/Employment Project* A.A., Manhattan Community College; B.A., Hunter College; M.P.H.E., University of Puerto Rico

Adrienne L. Markham, *Assistant Professor, Registered Nursing Program* R.N., B.S.N., St. Anselm's College; M.Ed., Salem State College

Mary Marra, *Math Lab Instructor (Part-Time), Division of Instructional Development* A.B., Emmanuel College

Margaret Martin, *Instructor (Part-Time), Medical Record Technology Program* B.A., Marymount College

Marjory L. Martin, *Professor, Department of English* B.A., Northwestern University; M.F.A., University of Iowa

John S. Mason, *Assistant Professor, Department of Natural Science* B.S., West Virginia Wesleyan College; M.S., Lowell Technological Institute

Roland Masse, *Instructor (Part-Time), Department of Business Administration* B.S., Salem State College

Elaine Mawhinney, *Chairperson, Department of Creative Arts*; A.B., Emmanuel College; M.A., Northeastern University

Peter McCarthy, *Assistant Professor, Department of Mathematics* B.S., Georgetown University; M.S., Western Washington State University

James McCosh, *Associate Professor, Department of History & Government* A.A., Morton Junior College; A.B., A.M., University of Illinois; M. Div., Northern Baptist Theological Seminary

Patricia A. McDermott, *Associate Professor, Division of Instructional Development* B.S., St. Joseph's College; M.A., Fairfield University

Robert E. McDonald, *Dean of Academic Affairs* B.S., Holy Cross College; M.A., University of Massachusetts; Ph.D., University of New Hampshire

Flora McLaughlin, *Staff Assistant, Practical Nursing Program* B.S., Fitchburg State Teacher's College; M.Ed., Fitchburg State College

Richard McLaughlin, *Staff Associate, Lawrence Education/Employment Project* A.A., Northern Essex Community College; B.A., University of Massachusetts

Doris Michaud, *Instructor (Part-Time) Department of Mathematics* B.S. Merrimack College

Stephen Michaud, *Coordinator of Student Activities* B.A., Springfield College; M.A., Rhode Island College

David Micus, *Assistant Registrar* B.A., Stockton State College; M.S., Southern Illinois University

Charles Montgomery, *Assistant Professor, Electronics* B.Sc., St. Francis Xavier University; M.Sc., University of Western Ontario

Donna Moolic, *Computer Operations Manager* Certificate, Data General Corporation

Judith Moran, *Assistant Professor, Division of Math, Science & Technology* B.A., M.S., University of New Hampshire

Gerard R. Morin, *Associate Professor, Department of History & Government* B.A., Merrimack College; M.A., University of New Hampshire

Victor Motz, *Instructor, Department of Natural Science* B.S., Purdue University; M.S., Ohio State University; Ph.D., University of Akron

Linda Murphy, *Math Lab Instructor (Part-Time), Division of Instructional Development* B.A., Merrimack College; M.Ed., Fitchburg State College

Helen Murgida, *Instructor (Part-Time), Early Childhood Education* B.S.Ed., M.Ed., Northeastern University

Rochelle Newman, *Professor, Department of Creative Arts* B.A., Hunter College; M.F.A., Cranbrook Academic of Art

Nancy K. Nickerson, *Math Lab Coordinator, Division of Instructional Development* B.A., Barrington College; M.Ed., Northeastern University

Virginia Noonan, *Instructor (Part-Time), Paralegal Programs* B.A., Wheaton College; J.D., Suffolk University Law School

Luanne Nugent, *Instructor (Part-Time), Registered Nursing Program* B.S., University of Massachusetts; M.S., Boston University

Michael Nutter, *Assistant Professor, Respiratory Therapy Technology Program* A.S., Northern Essex Community College; B.S., University of Lowell

Mary Nykoruk, *Instructor (Part-Time), Department of English* B.S., Wayne State University

Thomas O'Brien, *Evening Counselor (Part-Time)* B.A., University of Massachusetts; M.Ed., Springfield College

Debbie O'Carrol, *Instructor (Part-Time), Department of Creative Arts* B.A., Emerson College; M.A., Lesley College

Mary Jo O'Connor, *Assessment Center Counselor (Part-Time), Division of Instructional Development* B.A., Regis College; M.Ed., Lesley College

Carol O'Loughlin, *Math Lab Instructor (Part-Time), Division of Instructional Development* B.A., Salem State College

Janet O'Keefe, *Coordinator, CAD Program, Occupational Skills Center* A.A., Northern Essex Community College; B.A., University of Massachusetts; M.Ed., Suffolk University

Larry Onie, *Instructor (Part-Time), Department of Behavioral Sciences* B.A., George Washington University; M.S.W., University of Michigan; M.B.A., Syracuse University

William D. O'Rourke, *Coordinator, Gerontology Program* B.A., St. Bonaventure University; M.Ed., University of New Hampshire; Ph.D., Boston College

Joan Orrick, *Instructor (Part-Time), Nursing Program* B.S.N. University of Connecticut; M.S.N., Boston University

James Ortiz, *Program Director, Academic Support Center, Division of Instructional Development* A.A., Queensborough Community College; B.A., Hunter College; M.S.W., New York University

Francis J. Osborne, *Professor, Department of Natural Science* B.Sc., University of South Wales, United Kingdom; Ph.D., University of Cambridge, United Kingdom

Dianne Osgood, *Coordinator, Practical Nursing Program* B.S., University of Connecticut; M.S., Boston University

C. Ann Ott, *Instructor (Part-Time), Department of English* B.A., M.A., University of New Hampshire

Christopher Outwin, *Instructor (Part-Time), Department of English* B.A., Washington University; M.S., Boston University

Loretta O'Wrill, *Instructor (Part-Time), Department of Office & Business Education* B.S.Ed., Salem State College; M.S.Ed., New Hampshire College

Frank V. Padellaro, *Professor, Department of Business Administration* B.S.B.A., M.B.A., Northeastern University

Jose Padilla-Rivera, *Staff Associate, Bilingual Curriculum Development Specialist (Part-Time), Occupational Skills Center* B.S., M.A., University of Puerto Rico; Ph.D., Cornell University

Donald W. Pailles, *Professor, Department of Mathematics* B.S., State College at Bridgewater; M.S.T., University of New Hampshire

Martha K. Paisner, *Counselor, Division of Continuing Education & Community Services* A.B., Radcliffe College; M.A., Brown University; M.Ed., Rhode Island College

Francine Pappalardo, *Staff Assistant, Practical Nursing Program*

Richard Pastor, *Director of Financial Aid & Special Services* B.S., M.B.A., University of New Hampshire; Ed.D., University of Massachusetts

Robert A. Paul, *Chairperson, Department of Natural Science* B.S.B.A., B.S.B.Ed., Bryant College; M.A., Clark University

Michael E. Pelletier, *Professor, Computer Science* B.E.E., Villanova University; A.B., St. John's College; M.S.E.E., Northeastern University

Juana Perez, *Instructor (Part-Time), Lawrence Education/Employment Project* B.A., Gordon College

Mary Jane Perna, *Career Counselor* B.A., Massachusetts State College at Fitchburg; M.A., University of New Hampshire

John Peroni, *Dean of Continuing Education & Community Services* B.S., Salem State College; M.S.Ed., Boston University

Heather Peterson-Knott, *Instructor (Part-Time) and Day Division Coordinator, Paralegal Programs* B.A., L.L.B., University of Saskatchewan

Susan Phelps, *Instructor (Part Time), Word Processing* A.S., Northern Essex Community College; B.S., Salem State College

Kim Pickard, *Instructor (Part-Time), Department of Creative Arts* B.S., Kent State University

Sidney Pietzsch, *Counselor, Office for Students with Disabilities* B.A., Gallaudet College; M.S., East Texas State University

Christine Pike, *Instructor (Part-Time), Early Childhood Education* B.A., Colby College; M.Ed., Boston University

Catherine Pirri, *Assistant Professor, Department of Mathematics* B.A., Rhode Island College; M.A., Tufts University

Allan L. Pollock, *Associate Professor, Department of Natural Science* B.S., Bates College; M.S., Ph.D., Northeastern University

Ruth Ellen Post, *Instructor (Part-Time), Paralegal Programs* B.A., Montclair State College; J.D.M., Rutgers University

Jean C. Poth, *Chairperson, Department of Office & Business Education* A.S., B.S.B.A., Merrimack College; M.Ed., Boston University

Geraldine Powers, *Assistant Professor, Department of Business Administration* A.S., Northern Essex Community College; B.S., Salem State College; M.E., Boston University

Jeannine T. Press, *Instructor, Registered Nursing Program* R.N., A.S., Northern Essex Community College; B.S.N., St. Anselm's College; M.S., Boston University

Stephen Proietti, *Instructor, Department of Technology* B.S., Northrop University; M.S., Northeastern University

Mary Prunty, *Assistant Dean of Academic Affairs* Diploma, Burbank Hospital School of Nursing; R.N., B.S.E., Fitchburg State College; M.A., Assumption College

Diane Puopolo, *Instructor (Part-Time), CAD Program, Occupational Skills Center* B.S., Salem State College; M.S., Lesley College

Margaret D. Raney, *Professor, Department of Office & Business Education* A.A., Colby Junior College; B.S., M.Ed., Boston University

Gary Raymond, *Instructor (Part-Time), Lawrence Education/Employment Project* B.S., Lowell State College

Paulette Redmond, *Math Lab Instructor (Part-Time), Division of Instructional Development* B.A., Merrimack College; M.M.T., University of Lowell

Esther Reed, *Instructor (Part-Time), Registered Nursing Program* R.N., New England Sanitarium and Hospital; B.S.N.Ed., Columbia Union College; M.S., Boston College

Carolyn Reynolds, *Coordinator of Elder Programs & Services* B.A., Mount Holyoke College

Abbott E. Rice, *Director of Cooperative Education & Placement* A.B., Colby College; Ed.M., Ed.D., Boston University

Katherine H. Richards, *Professor, Department of Office & Business Education* B.S., M.Ed., Salem State College

Araceli Rivera-Miranda, *Staff Assistant, Intake Counselor (Part-Time), Lawrence Education/Employment Project* Certificate, Registered Medical Technologist, Manhattan Medical Assistant's School; BMHC Certificate, Yeshiva University; B.S., Merrimack College; M.S.W., University of Connecticut

Joseph Rizzo, *Assistant Professor, Department of Behavioral Sciences* A.A., Northern Essex Community College; B.S., Boston State College; M.A., Boston College

Leonard Robbins, *Instructor (Part-Time), Department of English* B.A., Harpur College; Ph.D., State University of New York

Mary Roche, *Reading Center Tutor (Part-Time), Division of Instructional Development* B.S., Salem State College

Katherine Rodger, *Program Director, Lawrence Education/Employment Project* B.A., Macalester College; M.Ed., University of Lowell

Martha Rodweller, *Assistant Director of Admissions & Financial Aid* B.S., Russell Sage College; M.Ed., Springfield College

Christopher Rowse, *Coordinator, Respiratory Therapy Program* A.S., Northern Essex Community College; B.A., North Adams State College; M.Sc., University of Massachusetts; Registered Respiratory Therapist

Barbara Rozman, *Reading Lab Instructor (Part-Time), Division of Instructional Development* A.B., Boston University; Ed.M., Salem State College

Rubin Russell, *Director, Office for Students with Disabilities* B.A., City College of New York; M.A., Boston University; Licensed Psychologist

John J. Sabbagh, *Associate Professor, Department of Office & Business Education* B.S., Merrimack College; M.Ed., Salem State College; C.A.E.S., Boston College

Robert F. Sacchetti, *Coordinator, Department of Technology* B.S., M.S., University of Lowell; J.D., Suffolk University

Gaby Sader, *Instructor, Department of Technology* B.S., M.S., University of Lowell

Ann Salvage, *Assistant Professor, Department of Engineering* B.A., Emmanuel College

Susan E. Sanders, *Assistant Professor, Department of Creative Arts*.... B.S., Ithica College; M.S.Ed., Elmira College; M.S., Emerson College

Catherine D. Sanderson, *Assistant Professor, Department of English* B.A., Cornell University; Ph.D., Indiana University

Lois Sanford, *Instructor (Part-Time), Alcohol/Drug Abuse Counseling Program* B.A., Merrimack College; M.Ed., Boston College

Nicholas Sarris, *Professor, Department of Business Administration* B.S., University of New Hampshire; M.A., C.A.S., Fairfield University; J.D., Boston College; C.A.G.S., Boston University

Janet Scheerer, *Assessment & Special Services Counselor, Division of Instructional Development* B.S., Syracuse University; M.S.Ed., Lesley College

Deborah Scire, *Staff Assistant/Job Developer, Cooperative Education*, B.A., Simmons College; Ed.M., Harvard University

Carolyn Scharfenberger, *Assistant Librarian (Part-Time)* B.A., Bowling Green State University; M.S., Simmons College

John Scuto, *Counselor for Career Development (Part-Time)* B.A., University of Lowell; M.Ed., Rivier College; C.A.G.S., University of New Hampshire

Usha N. Sellers, *Chairperson, Division of Social Sciences* B.A., Punjab University; B.A., M.A., Tufts University; Ed.D., Boston University

Helene Sestrich, *Staff Assistant, Curriculum Development Specialist, Occupational Skills Center* B.M. University of Laval; M.S., University of Illinois

Wendy Shaffer, *Director of Development* B.A., University of Massachusetts

Eileen Sharkey, *Reading Lab Instructor (Part-Time), Division of Instructional Development* B.A., Montclair State College; M.A., The City College of New York

Romaine Shea, *Assessment Center Aide (Part-Time), Division of Instructional Development* A.S., Westbrook Junior College

Edward Sheehan, *Superintendent of Buildings & Grounds* A.A., Northern Essex Community College; B.S., Salem State College

Veronica Sheehan, *Writing Lab Instructor (Part-Time), Division of Instructional Development* B.A., College of St. Joseph

Geraldine Shepherd, *Assessment & Special Services Counselor, Division of Instructional Development* R.N., Lowell General School of Nursing; B.S., Emmanuel College; M.A., Lesley College

Cheryl Sheridan, *Instructor (Part-Time), Medical Record Technology Program*

Naomi Shertzer, *Coordinator of Special Interest Courses, Division of Continuing Education & Community Services* B.F.A., Cooper Union for Arts and Science; Ed.M., Harvard University

Arthur Signorelli, *Facilities Coordinator* B.S., Plymouth State College

Melvin Silberberg, *Program Director, Articulation Project Coordinator, Office of the President* B.A., Harvard College; M.A., Boston University

Selma W. Singer, *Assistant Professor, Department of Behavioral Sciences* B.S., M.A., University of New Hampshire

Harold Sipples, *Assistant Professor, Department of English* B.Ed., Rhode Island College; M.A., University of Rhode Island

Philip Sittnick, *Assistant Professor, Department of English* B.A., University of Hartford; M.A., Kansas State University

Frederick Smith, *Instructor (Part-Time), Department of History & Government* A.B., M.A., Northeastern University

Edward Spinney, *Associate Professor, Department of Natural Science* B.S., Salem State College; M.Ed., University of Florida; M.A., Boston University

John H. Spurr, *Professor, Department of Foreign Languages, Philosophy & Religion* B.S., Boston College; Diploma, University of Strasbourg; Ph.D., Boston University

June Spurr, *Instructor (Part-Time), Department of History & Government*

Kevin Stevens, *Instructor (Part-Time), Department of English* B.A., M.A., University College, Dublin

George Stewart, *Coordinator (Part-Time), Criminal Justice Program* B.S., Northeastern University; M.A., Boston State College

Bradley Stolzer, *DMD Technical Director (Part-Time) Dental Assistant Program* B.S., Tufts University; D.M.D., Tufts University School of Dental Medicine

Paula Strangie, *Assistant Professor, Department of Behavioral Sciences* B.A., University of Massachusetts; M.Ed., Salem State College

James F. Sullivan, *Professor, Electronics* P.E., B.S.E.E., Catholic University of America

John L. Sullivan, *Professor, Department of Mathematics* B.S., Lowell Technological Institute; M.S., University of Oklahoma

Carol Svenconis, *Program Director, Interactive Learning Component of Title III Project, Division of Instructional Development* B.A., University of Lowell; M.S., State University of New York

Patricia E. Taglianetti, *Coordinator, Medical Record Technology Programs* R.R.A., B.S., Simmons College

Gail Tangard, *Assistant Professor, Registered Nursing Program* B.S., Lowell State College of Nursing; M.S., Boston University School of Nursing

Roger Taylor, *Instructor, Department of Business Administration* B.S., University of London at Oxford; Graduate Certificate, University of London Institute of Education

Jodi Templer, *English as a Second Language Instructor, Division of Instructional Development* B.A., Clark University; Massachusetts Teaching Certificate, Salem State College

Dolores Thompson, *Assistant Professor, Department of Office & Business Education* A.A., Northern Essex Community College; B.S., Salem State College; M.Ed., Boston University

Patricia True, *Reading Lab Tutor, Division of Instructional Development* A.A., Northern Essex Community College; B.S., Boston State College

Ruth Trussell, *Instructor (Part-Time), Department of Creative Arts* B.F.A., Massachusetts College of Art; M.F.A., Yale University

Joan Tuberosa, *Staff Assistant/Instructor, Practical Nursing Program* R.N., Whidden Memorial Hospital; B.S., Fitchburg State College; M.Ed., Worcester State College

Judith Tye, *Coordinator, Early Childhood Education Program* B.A., Wheaton College; Ed.M., Harvard University

Suzanne Van Wert, *Writing Lab Instructor (Part-Time), Division of Instructional Development* B.A., State University of New York at Buffalo

Susan Vincent, *Instructor (Part-Time), Department of Behavioral Sciences* A.A.S., Broome Community College; B.S., Cornell University; M.S.W., Syracuse University

Mary Wadman, *Associate Professor, Department of Natural Science* B.A., Emmanuel College; M.A., Wellesley College

Carol Wallace, *Instructor (Part-Time), Radiologic Technology Program* R.R.T., A.S., Middlesex Community College

Helen Watt, *Reading Lab Instructor (Part-Time), Division of Instructional Development* B.A., Trinity College; M.S.Ed., Nazareth College

Joan Wattman, *Instructor (Part-Time), Interpreter Training Programs* B.A., Hampshire College

Barbara Webber, *Assistant Dean of Continuing Education & Community Services* A.A., Colby College; B.A., Harvard Extension; M.Ed., Boston University; Ed.D., Nova University

Cheryl Wecksler, *English as a Second Language Instructor (Part-Time)*, Division of Instructional Development B.A., Ed.M., State University of New York at Buffalo; Certificate Practique de Langue Francaise, Universite des Sciences Humaines

Thomas H. White, *Associate Professor, Department of Natural Science* A.B., Merrimack College; M.S., Boston College

John Whittle, *Professor, Department of Behavioral Sciences* B.A., Utica College of Syracuse University; M.S.W., Boston College

Kay Whitten, *Instructor (Part-Time), Registered Nursing Program* B.S.N., University of Alabama; M.S.Sc., University of Arkansas for Medical Sciences

Elizabeth J. Wilcoxsen, *Professor, Department of History & Government* A.B., Gordon College; M.A., Northeastern University; Ph.D., Boston College

Douglas Wilkinson, *Assistant Director of Cooperative Education & Placement* B.S., M.A., University of Florida

Mary Wilson, *Assistant to the President* B.A., Middlebury College; M.Ed., Boston University

Duane A. Windemiller, *Professor (Part-Time), Department of Behavioral Sciences* A.B., Anderson College; S.T.B., Ph.D., Boston University

Barbara Wittenhagen, *Instructor (Part-Time), Early Childhood Education Program* B.A., Jackson College; M.A., Lesley College

Eugene Wintner, *Reading Lab Coordinator, Division of Instructional Development* B.A., Brandeis University; Ed.M., Boston University

Andra Woodbury, *Staff Assistant/Athletic Intramural Office Manager (Part-Time)* B.S. Ithaca College

William W. Wright, Jr., *Instructor, Department of Behavioral Sciences* B.S., Arizona State University; Ed.M., Salem State College; Ed.D., Boston University

Jack P. Wysong, *Associate Professor, Department of English* A.A., Northern Essex Community College; A.B., Ed.M., University of Massachusetts; C.A.G.S., Ed.D., Northeastern University

CLASSIFIED STAFF

Janice Alestock	Offset Press Operator
Christine Archambeault	Senior Bookkeeper
Walter Arsenault	Maintenance
Harry Barnes	Computer Programmer
Tammy Beaulieu	Bookkeeper, Bursar's Office
Corinne Bellavance	Secretary, Admissions Office
Louise Bevilacqua	Senior Library Assistant
Glenna Bier	Switchboard Operator
Claire Bly	Data Entry Clerk, Admissions Office
Yolanda Bonilla	Clerk, Health Services
Joan Brady	Senior Bookkeeper
Nancy Brown	Secretary, Dean of Continuing Education
Marie Burchell	Principal Bookkeeper
Julie Carey	Secretary, President's Office
Olga Carroll	Secretary, Assistant to the President
Rosemarie Carver	Staff, Admissions Office
Linda Cashman	Staff, Comptroller's Office
Daniel Chernesky	Maintenance
Clifford Clark	Carpenter
Pamela Clough	Staff, Continuing Education
Alice Coddair	Staff, Registrar's Office
Joseph Colby	Maintenance
Alice Cole	Secretary, Division of Instructional Development

Edward Comeau	Maintenance
Louise Crescenzi	Clerk, Graphics and Mail Room
Richard Dam	Storekeeper
Jose Diaz	Maintenance
Mai DiPietro	Staff, Life Long Learning Office
Donna Dodge	Data Entry Clerk, Registrar's Office
Donna Dow	Staff, Payroll Office
Cheryl Drew	Staff, Personnel Office
Joan Driscoll	Bookkeeper, Student Activities
Joyce Driscoll	Secretary, Director of Personnel
David DuBois	Electrician
Arthur Dufour	Central Mailing Room Clerk
Robert Dufour	Painter
Edward Dul	Head Groundskeeper
Denise Dunbar	Technical Assistant II, Academic Computing Lab
Marilyn Ely	Staff, Admissions Office
Phyllis Ferrante-Ballou	Secretary, Buildings & Grounds; Security
Bernadine Festo	Secretary, Division of Business; Division of Mathematics, Science & Technology
Edward Fice	Coordinator of Graphic Reproduction
Kevin Follansbee	Maintenance
Michael Follansbee	Refrigeration and Heating Mechanic
Christine Fowler	Head Janitor
Charles Gates	Motor Equipment Repairman
Donna Geagan	Audio Visual Technician
Ellena Georato	Staff, Admissions Office
Judith Good-Elia	Technical Assistant, Academic Computing Lab
Thomas Gorczyca	Lab Technician, Department of Natural Science
Carmen Grillo	Groundskeeper
Roberta Grover	Secretary, Title III Activity Director
James Hellesen	Technical Assistant II, Instructional Media
Cynthia Hideriotis	Staff, President's Office
Cindy Hill	Chief Electronic Computer Operator
Alvin Hitchcock	Maintenance
Dorothy Holmes	Secretary, Dean of Student Services
Ruth Horton	Secretary to the President
Dianne Hoyt	Secretary, Registrar's Office
Doris Iavolo	Secretary, Admissions Office
Robert Iola	Maintenance
Christopher Jensen	Technical Assistant II, Academic Computing Lab
Donna Johnson	Game Room Supervisor
Mary Keefe	Staff, Continuing Education
Judith Kelleher	Junior Accountant
Barbara Knox	Secretary, Counseling Office
Frank Knutkowski	Technician, Electronics Program
Elaine Kosta	Junior Accountant
Katherine Krafton	Staff, Registrar's Office
Donald Kumis	Maintenance
Sandra Lambert	Staff, Academic Affairs Office
Claire Langley	Coordinator, Secretarial Support Center
Cynthia Law	Staff, Continuing Education
Jane Lesiczka	Staff, Payroll Office
Virginia L'Italien	Data Entry Clerk, Computer Services
Marina Lizardo	Secretary, Lawrence Education/Employment Program
Anastasia Loftus	Staff, Admissions Office
Charles Lombardo	Media Technician

Alivida Martinez Secretary, Lawrence Education/Employment Program
 Pamela McLaughlin Staff, Public Information Office
 Sandra Meldrum Technical Assistant II, Electronics Program
 Ana Mena Secretary, Lawrence Education/Employment Program
 Julita Menza Secretary, Title III
 Victoria Michaud Staff, Continuing Education
 Julio Morel Electronic Computer Operator
 Susan Nutter Technical Assistant, Academic Computing Lab
 Susan O'Brien Secretary, Day Nursing Program
 Raymond O'Connell Maintenance Foreman
 Candace O'Shea Evening Audio Visual Coordinator
 Rose Paolino Secretary, Public Information; Alumni Relations
 Pat Pelosi Staff, Financial Aid Bookkeeping Office
 Elizardo Perez Maintenance
 Laurie Perkins Principal Bookkeeper
 Donna Piechocki Staff, Continuing Education
 Patricia Pope Secretary, Financial Aid Office
 Marion Ragust Secretary, Dean of Academic Affairs
 Donna Rapa Staff, Secretarial Support Center
 Nancie Rogers Data Entry Clerk, Registrar's Office
 Ralph Rogers Maintenance
 Edward Rurack Groundskeeper
 Nancy Sabin E.D.P. Entry Operator 2, Registrar's Office
 Anita Sevajian Staff, Academic Affairs Office
 Sidney Silverman Technician, Electronics Program
 Ilene Sirois Junior Accountant
 Patricia Smith Staff, President's Office
 Susan Smith Staff, Occupational Skills Center
 Susan Smulski Secretary, Student Activities Office
 Robert Spofford Maintenance
 Gail Stuart Senior Library Assistant
 Dorothy Tassinari Staff, Academic Support Center
 Caryl Taylor Forms and Layout Technician, Publications Office
 Diana Tisbert Data Entry Clerk, Registrar's Office
 Pauline Tripodi Secretary, Dean of Administration
 Pamela Trudel Audio Visual Technician
 Deborah Twomey Staff, Registrar's Office
 William Wallace Plumber/Steamfitter
 Ann Walther Secretary, Division of Social Sciences
 Bertha Wedgewood Staff, Secretarial Support Center
 Donna Weeks Technical Assistant, Academic Computing Lab
 Brian York Technical Assistant II, Electronics Program
 James Yurik Mechanical Handyman
 Barbara Zelisko Secretary, Evening Nursing Program

COLLEGE DIRECTORY

President of the College

John R. Dimitry

A-Building, Extension 112

Assistant to the President

Mary Wilson

A-Building, Extension 118

Dean of Academic Affairs

Robert McDonald

B-Building, Extension 170

Assistant Dean of Academic Affairs

Mary Prunty

B-Building, Extension 171

Dean of Student Services

Norman Landry

B-Building, Extension 172

Director of Admissions

Elizabeth Huntley Cole

B-Building, Extension 240

Director of Financial Aid

& Special Services

Richard Pastor

B-Building, Extension 176

Registrar

Allen Felisberto

B-Building, Extension 242

Dean of Continuing

Education & Community Services

John Peroni

B-Building, Extension 245

Assistant Dean of Continuing

Education & Community Services

Barbara Webber

B-Building, Extension 246

Dean of Administration

Joseph Brown

A-Building, Extension 114

Comptroller

Matilda Del Vecchio

A-Building, Extension 116

Bursar

Regina Correia-Branco

B-Building, Extension 122

Director of Personnel

Stephen Fabbrucci

A-Building, Extension 117

Director of Publications

Sheila Krim

E-Building, Extension 155

Director of Development

Wendy Shaffer

A-Building, Extension 125

Director of Research

Anne Marie Delaney

A-Building, Extension 199

Director of Counseling

Elizabeth Coyne

F-Building, Extension 178

Director of Cooperative

Education & Placement

Abbott Rice

F-Building, Extension 187

Office for Students with Disabilities

Rubin Russell, Director

F-Building, Extension 267

Coordinator of Health Services

Patricia Kepschull

F-Building, Extension 195

Coordinator of Student Activities

Stephen Michaud

F-Building, Extension 181

Academic Support Center

James Ortiz, Director

C-Building, Extension 252

Facilities Coordinator

Arthur Signorelli

A-Building, Extension 194

Superintendent of

Buildings & Grounds

Edward Sheehan

G-Building, Extension 145

Division of Business

Olga Williams, Chairperson

C-Building, Extension 185

Division of Humanities

& Communication

Chester Hawrylcw, Chairperson

C-Building, Extension 255

Division of Human Services

& Health Professions

Paul Bevilacqua, Chairperson

C-Building, Extension 188

Division of

Instructional Development

David Kelley, Chairperson

A-Building, Extension 288

Division of Mathematics,

Science & Technology

Corinne Grise, Chairperson

C-Building, Extension 183

Division of Social Sciences

Usha Sellers, Chairperson

C-Building, Extension 294

INDEX

Academic Regulations	42
Academic Structure	55
Academic Standards	35, 42
Academic Support	31
Academic Support Center	31
Accessibility: Disabled Students.....	29
Accounting Associate Degree	56
Accounting Courses	112
Accreditation	10
Adding/Dropping Courses	46
Admission to N.E.C.C.	13
Advice at N.E.C.C.	27
Aerospace Studies Courses	113
Affirmative Action.....	11
Air Force R.O.T.C.	42
Alcohol/Drug Abuse Counseling Certificate	56
Alumni Association, N.E.C.C.	10
Applicants with Disabilities	14, 29
Application Procedures	13
Assessment Center	31
Associate Degrees/Certificates	55
Athletics	25
Auditing a Course	18, 47
Banking Associate Degree	57
Banking Courses	114
Banking Studies Certificate.....	57
Biology Courses	113
Board of Regents	Inside Front Cover
Board of Trustees.....	Inside Front Cover
Business Education Associate Degree ..	58
Business Management Associate Degree ..	58
Business Management Options	59-61
Business Transfer Associate Degree.....	62
Campus Guidelines	26
Center for Business & Industry	9
Change of Programs	45
Charge-A-Course	19
Chemistry Courses	117
Civil Technology Associate Degree.....	64
Civil Technology Courses.....	116
CLEP Credit	16
College Center	24
College Policies	11
Commercial Art Certificate.....	64
Community Services	35
Computer Aided Drafting Certificate	65
Computer Maintenance Associate Degree.....	65
Computer Technology Associate Degree.....	66
Computer Technology Courses.....	119
Continuing Education	35
Cooperative Education	28, 40
Cooperative Education Courses	117
Counseling	27
Course Descriptions	111
Course Prerequisites	45
Course Requirements	45
Credit for Life Learning	16
Criminal Justice Associate Degree	70
Criminal Justice Courses	118
Cross Disciplinary Courses	115
Cross Registration	42
Dental Assistant Certificate	71
Dental Assistant Courses	121
Early Childhood Education Associate Degree	71
Early Childhood Education Courses	115
Earth Science Courses	122
Economics Courses	122
Education Courses	1223
Electricity Courses	123
Electronics Courses	129
Electronic Technology Associate Degree ..	72
Engineering Science Associate Degree ..	74
English as a Second Language	32, 40
English Courses	124
Executive Secretarial Associate Degree ..	76
Executive Secretarial Options	76-78
Faculty	174
Finance Courses	133
Financial Aid	19
Financial Obligations	11/19
Fine Arts Courses	131
Food Service Management Associate Degree	80
Food Service Management Courses	133
Foundation, N.E.C.C.	9
French Courses	133
Gallaudet Regional Center	10
GED (High School Equivalency)	40
Geography Courses	134
General Studies Associate Degree	81
German Courses	134
Gerontology Associate Degree	82
Gerontology Certificate	82
Gerontology Courses	134
Goals of the College	8
Governance of the College	9
Government Courses	135
Grading System	49

Graduation Requirements	52	Physical Education Courses	151
Grievance Procedure: Students	26	Physics Courses	154
Health Services	30	Placement	28
Health Service Courses	137	Practical Nursing Certificate	103
History Courses	135	Practical Nursing Courses	156
Humanities Courses	137	Program Advisory Committees	169
I.D. Cards: Students	25	Program Requirements	45
Information Management Certificate	83	Psychology Courses	157
International Studies	41	Publications	26
Interpreter Training Associate Degree	83	Radiologic Technology Associate Degree	104
Interpreter Training Certificate	84	Radiologic Technology Courses	159
Interpreter Training Courses	137	Refunds	18
Introduction to the College	7	Registered Nursing Associate Degree	104
Lawrence Education/Employment Project	41	Religion Courses	158
Learning Resources Center	32	Residency	14, 18
Law Courses	139	Respiratory Therapy Associate Degree	108
Liberal Arts Associate Degree	85	Respiratory Therapy Certificate	109
Liberal Arts Course Concentrations	87	Respiratory Therapy Courses	159
Liberal Arts Degree Concentrations	86	Scholarships	22, 23
Management Courses	143	Science Courses	162
Marketing Courses	147	Shorthand Chart	79
Materials Management Certificate	98	Shorthand Courses	162
Math Chart: Business	63	Sociology Courses	165
Math Chart: Computer Technology	68, 69	Spanish Courses	166
Math Chart: Technology	73	Specialized Study Opportunities	40
Math Chart: Engineering	75	Special Topics Courses	47, 111
Math Chart: Liberal Arts	96, 97	Staff: Classified	188
Math Courses	191	Staff: Professional	175
Medical Record Associate Degree	147	Student Life	24
Medical Record Technology Courses	147	Theatre Courses	167
Medical Terminology & Transcribing Certificate	99	Transfer Admissions	15
Mental Health Courses	145	Transfer After N.E.C.C.	33
Mental Health Associate Degree	99	Tuition & Fees	17
Mental Health Technology: Community Residence Manager Certificate	100	Tuition-Free Study	19
Music Courses	149	Tuition Waivers	21
NECCUM Cross Registration	42	Tumor Registry Certificate	110
New England Regional Program	14, 19	Typewriting Courses	168
North Essex Health Resource Center	27	Veterans Information	28
Nursing Courses	150	Withdrawal From College	17, 53
Occupational Advisory Council	169	Word Processing Technology U Management Associate Degree	110
Office Administration Courses	164		
Office Management Associate Degree	101		
Office Skills Certificate	101		
Office Techniques Courses	164		
Paralegal Certificate	102		
Paralegal Studies Associate Degree	102		
Part-Time Studies: Day	14		
Philosophy Courses	155		
Philosophy of the College	8		

